Environmental Management Strategy

710-005-EN-STR-0001

DOCUMENT CONTROL

This plan must not be modified altered or changed unless authorised by the document owner.

Document Owner: Superintendent - Environment

AMENDMENTS

Rev.	Revision Date	Developed By	Issued to	Approved by	Approval Date
1	21/03/2013		Department of Planning and Infrastructure	D Kitto	16/5/2013
2	09/12/2013		Department of Planning and Environment	K Winwood	11/7/2014
3	02/03/2020	Jeff Burton	Department of Planning, Industry and Environment	Stephen O'Donoghue	18/06/2020
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AMENDMENTS

Rev.	Date	Section	Page	Developed By	Nature of Amendment
4	17/06/2021	1.2 2.4 2.4.1 6	6 13 26	Jeff Burton	Incorporate feedback from 2020 Independent Compliance Audit. Removal of references to the Blayney Dewatering Facility (now demolished). Update Organisational Chart. Address RFI-21517596.

APPROVAL

Revision No.	Approval Date	Signature
4	18/06/2021	
		Merrilyn Tinsley

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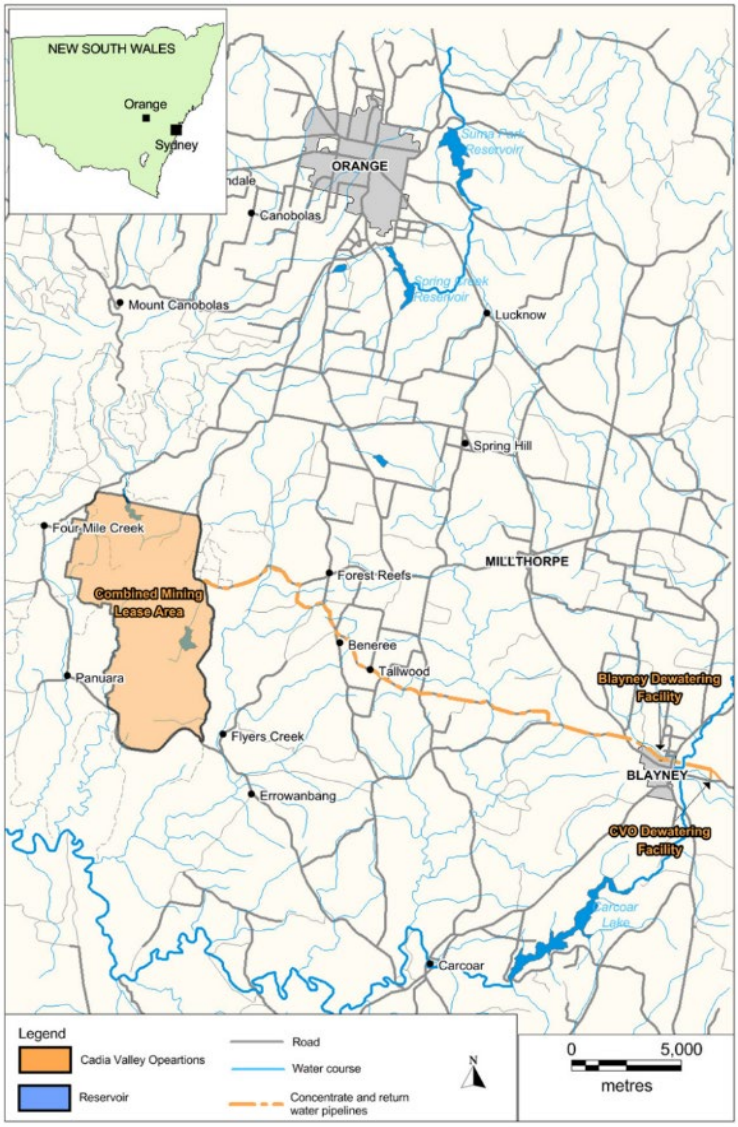
1. INTRODUCTION

Cadia (Cadia Holdings Pty. Ltd) is a fully owned subsidiary of Newcrest Mining Ltd. Cadia is a gold/copper mining and processing complex in central west NSW near the town of Orange (Figure 1-1). The Cadia complex comprises the Ridgeway, Ridgeway Deeps and Cadia East mines, minerals processing facilities and associated infrastructure. The Cadia Hill Open cut pit is now utilised for tailings storage while the Ridgeway underground mine is under care and maintenance. Mining commenced in 1998, with current approvals taking the project through to June 2031. The project mines and processes up to 32 million tonnes per annum.

The Environmental Management Strategy aims to meet all legal obligations, including the requirements from the Cadia East Project approval and describes the strategic framework for environmental management of the project. The strategy will provide an overview of the strategic environmental objectives, how environmental management is integrated into the business, details of the environmental monitoring programs and when the plan will be reviewed.

Figure 1-1: Cadia Regional Location



1.1 PURPOSE

The purpose of this document is to provide the strategic framework for Environmental Management at Cadia. Cadia has an internal Environment, Social Performance and Approvals Management System (ESPAMS) that has three specific purposes:

- Meet all legal and other requirements
- Manage environment and community risks
- Demonstrate continuous improvement in environmental and social performance

1.2 PLANNING APPROVAL

Project Approval for the Cadia East Project was granted by the NSW Minister for Planning under Part 3A of the Environmental Planning and Assessment Act, 1979 (EP&A Act) on 6 January 2010. The Cadia East Project is described in Schedule 1 of the Project Approval as including the Cadia East underground mine, the Cadia Hill open cut mine (now used for tailings deposition), the Ridgeway underground mine, the Cadia Dewatering Facility, and ancillary infrastructure. These components are collectively known as Cadia.

This Strategy has been developed to provide an overview and strategic context of environmental management at Cadia (including the Cadia Dewatering Facility).

The Strategy addresses the requirements contained in the Cadia East Project Approval and subsequent modifications and has been prepared in accordance with Condition 1, Schedule 5 of the Project Approval. Table 1 below provides the requirements of this condition and references the relevant section(s) of the Strategy where each requirement is addressed.

Table 1 : PA 06_0295 Requirements

Condition Number	Requirements	EMS Reference
Schedule 5, Condition 1; *The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. The strategy must;*		
a	*Be submitted to the Secretary for approval within 6 months of the date of this approval.*	Document history and status
b	*provide the strategic framework for environmental management of the project;*	Section 2
c	*identify the statutory approvals that apply to the project;*	Section 2.1.1
d	*describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;*	Section 6
e	*describe the procedures that would be implemented to:*	
	keep the local community and relevant agencies informed about the operation and environmental performance of the project;	Section 3
	receive, handle, respond to, and record complaints;	Section 4
	resolve any disputes that may arise during the course of the project;	Section 5
	respond to any non-compliance; and	Section 2.7.4
	respond to emergencies;	Section 2.7

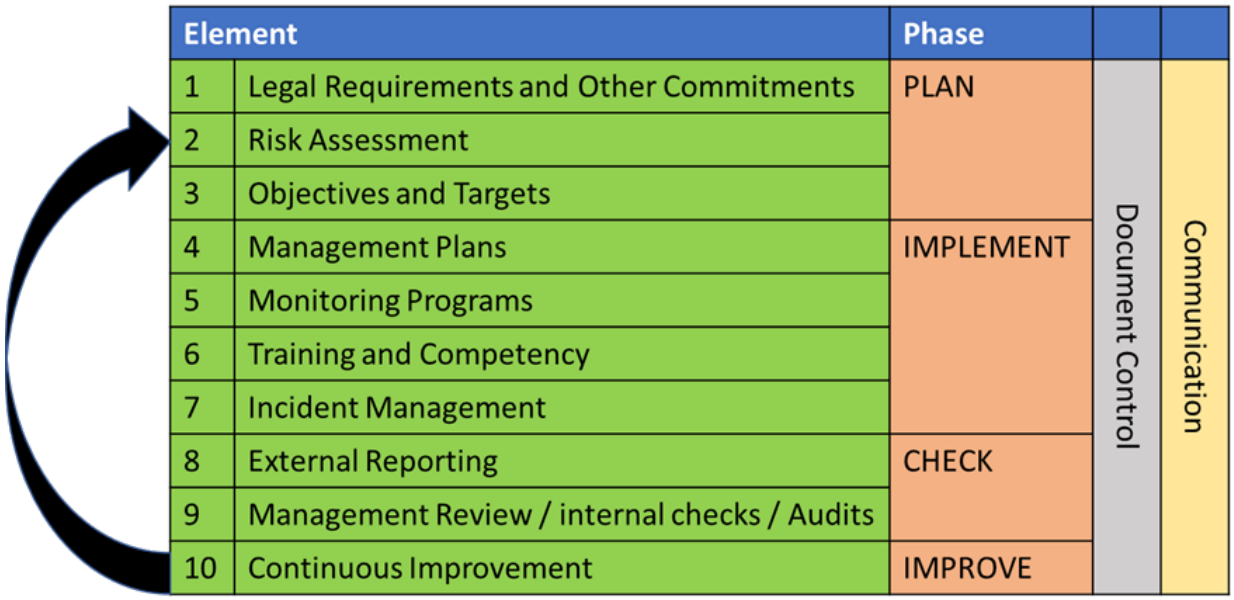
Condition Number	Requirements	EMS Reference
f	*Include:* *copies of the various strategies, plans and programs that are required under the conditions of this approval once they have been approved; and*	Section 8
	Include: *a clear plan depicting all the monitoring to be carried out in relation to the project.*	Section 9

2. ENVIRONMENTAL MANAGEMENT STRATEGY

Cadia has developed this Environmental Management Strategy which incorporates legal requirements and commitments, relevant Newcrest Policies, Newcrest environment and social standards and risk management aspects. The strategy describes the way Cadia manages environment and community risks through:

- Risk Assessments – to identify the consequence and likelihood of potential environment and community impacts.
- Management plans, programs, procedures – to identify, assign and implement 'controls' to manage or mitigate environment and community risk.
- The Environmental Strategy utilises components of the internal Environment, Social Performance and Approvals Management System (ESPAMS) and generally follows the ISO 14001:2015 Environmental Management Systems framework. The ESPAMS forms the basis of how environmental management is integrated into the business at Cadia.
- The following figure (Figure 2-1) outlines the key aspects of the Environment Management Strategy and ESPAMS; each component is explained in more detail in the following sections.

Figure 2-1: Environment and Social Performance Management Framework



2.1 LEGAL REQUIREMENTS

Newcrest maintain an internal electronic 'Obligations Register' where all key legislative requirements and other commitments are stored. The register includes:

- A copy of the approval (electronic)
- The nominated obligation owner (responsible person)
- The termination / renewal date of the approval
- Itemised consent conditions
- Action plans / actions to check and verify compliance with consent conditions

The register is accessible by all Newcrest / Cadia staff.

The following sections provide an overview of key legal requirements.

2.1.1 Key Approvals

The statutory approvals that currently apply to environmental management at Cadia are:

- Cadia East Project Approval (PA06_0295) obtained under Part 3A, Section 75J of the Environmental Planning & Assessment Act, 1979 and subsequent modifications:
  - MOD 1 - Cadia East Project – Biodiversity Offset;
  - MOD 2 - Cadia Hill Decline;
  - MOD 3 - Blayney Dewatering Facility;
  - MOD 4 - Concentrate and Return Water Pipeline;
  - MOD 5 - Surface Preconditioning Program;
  - MOD 6 - Surface Blasthole Preconditioning Program;
  - MOD 7 - Processing Rate Modification;
  - MOD 8 - Biodiversity Offset Area Modification; and
  - MOD 9 - Surface Preconditioning and On-site Warehouse Modification.
  - MOD 10 - Molybdenum Recovery Plant Relocation
  - MOD 11 - In-Pit Tailings Deposition
  - MOD 12 - Cadia Hill Tailings Continuation
  - MOD 13 - Cadia Hill Tailings Completion
- Cadia East Project Approval (EPBC 2006/3196) obtained under sections 130(1) and 133 of the Commonwealth Environment Protection and Biodiversity Conservation Act, 1999;
- Mining leases ML 1405, ML 1472, ML 1481, ML 1449, ML 1689 and ML 1690 issued under the Mining Act, 1992;
- Environment Protection Licence (EPL) No. 5590 issued under the Protection of the Environment Operations Act, 1997;
- Groundwater bore licences issued under the Water Act, 1912; and
- Water Access Licences and Works Approvals issued under the Water Management Act (2000).

2.1.2 Other Statutory Acts

The following Acts and associated regulations are applicable to the approval and operation of the Cadia site.

- Commonwealth - Environment Protection and Biodiversity Conservation Act 1999
- NSW Mining Act 1992
- NSW Environmental Panning and Assessment Act 1979
- NSW Protection of the Environment Operations Act 1997 (and associated regulations)
- NSW Water Management Act 2000
- NSW Water Act 1912
- NSW Heritage Act 1977
- NSW Biodiversity Conservation Act 2016 (and associated regulations)
- NSW Fisheries Management Act 1994
- NSW Local Land Services Act 2013 (and associated regulations)
- NSW Biosecurity Act 2015
- NSW Pipelines Act 1967
- NSW Roads Act 1993
- NSW Contaminated Lands Management Act 1997
- NSW Local Government Act 1993
- NSW Crown Land Management Act 2016
- NSW National Parks and Wildlife Act 1974
- NSW Rural Fires Act 1997

2.1.3 State Environmental Planning Policies

The following State Environmental Planning Policies (SEPPs) are relevant to CVO:

- SEPP - Major Projects (2005);
- SEPP - Mining, Petroleum Production and Extractive Industries (2007);
- SEPP – Primary Production and Rural Development (2019);
- SEPP 33 - Hazardous and Offensive Development;
- SEPP Koala Habitat Protection (2019); and
- SEPP 55 - Remediation of Land.

2.1.4 OTHER COMMITMENTS

2.1.4.1 Newcrest Policies

Cadia complies with the following Newcrest Policies which guide the overall direction of the company within the Environment and Social performance disciplines. These policies are signed by the CEO of Newcrest and are available on the Newcrest Website, intranet site and prominently displayed in key locations throughout Cadia. The following Policies are included in the appendices of this strategy.

- Newcrest Environment Policy (Appendix A)
- Newcrest Biodiversity Policy (Appendix B)
- Newcrest Sustainability Policy (Appendix C)
- Newcrest Communities Policy (Appendix D)
- Newcrest Water Stewardship Policy (Appendix E)

Note: Newcrest Policies and Standards are updated from time to time. For the current policies and standards, please access them via the Newcrest website (www.newcrest.com.au).

2.1.4.2 Newcrest Environmental Standards

Cadia operates in accordance with a range of Newcrest Standards which guide the overall management of environment and community risks. The key requirements from Newcrest's standards are incorporated into management plans and work programs as required. Annually, compliance to these standards is assessed by Group Environment, Group Social Performance and the Newcrest Internal Audit Team (Section 2.9.3). Applicable Standards are included in Appendix F of this strategy and include:

- EN ST 01 Acid and Metalliferous Drainage
- EN ST 02 Air Quality
- EN ST 03 Biodiversity
- EN ST 06 Hydrocarbon and Chemical
- EN ST 07 Land use and Disturbance
- EN ST 08 Mine Closure
- EN ST 09 Non-Mineral Waste
- EN ST 10 Tailings Storage Facilities
- EN ST 11 Waste Rock
- EN ST 12 Water
- PER SP ST-01 Newcrest Social Performance Standard

Note: Newcrest Policies and Standards are updated from time to time. For the current policies and standards, please access them via the Newcrest website (www.newcrest.com.au).

2.1.4.3 Industry Guidelines, Codes of Practice and Standards

Cadia operates under a number of industry commitments, guidelines, Codes of Practice and standards. Where applicable the requirements from these documents are incorporated into management plans and work programs and implemented accordingly. Industry commitments that are applicable to Cadia include:

- International Council on Mining and Metals (ICMM) – 10 principals (Appendix G)
- Australian Minerals Industry Framework for Sustainable Development – Enduring Value Agreement
- Minerals Council of Australia (MCA) Water Accounting Framework
- Australian Standards
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000
- Managing Urban Stormwater: Soils and Construction 2004

2.2 RISK ASSESSMENT

Potential Environment and Social Performance hazards are identified and documented for operations, products, business developments, acquisitions, modifications and projects.

Hazards are analysed through formal risk assessments in accordance with Newcrest requirements to determine the specific risk event resulting in the highest potential severity rating, potential causes, impacts types, preventative controls, and mitigating controls.

Cadia has a designated Risk team that is responsible for the management of risk at Cadia. Accordingly, the risk team maintains 2 risk registers:

- Material Risks - for all risk rated as level 5 and 6.
- Site based Risk Register – for all other risks.

The site Risk Registers are reviewed bi-annually or following a significant change in operations, significant Incident (or potential incident) or series of community complaints. Any changes in the risk registers or any new risk controls are reflected in the associated management plan for that discipline.

2.3 OBJECTIVES AND TARGETS

Targets and objectives are developed on an annual basis. These objectives and targets are developed based on the following;

- Review of legal requirements;
- Review of company and industry environmental incidents;
- Review of the Cadia Site Risk Register;
- Review of environmental monitoring data;
- Review of community communications and complaints;
- Review of company environmental standards and other requirements; and
- Review of future mining, rehabilitation and processing plans according to approved Mining Operations Plan.

The targets and objectives are endorsed by the Cadia Management Team and committed in the Cadia Annual Review (Environment and Social Performance Scorecard). Progress against targets and objectives are tracked internally on a quarterly basis and reported annually in the Annual Review.

2.4 MANAGEMENT PLANS

Management plans are used to identify, assign and implement 'controls' to manage or mitigate environment and community risks.

Each management plan clearly:

- Identifies Environment, Social Performance or Approvals risks
- Identifies any relevant legal requirements or commitments
- Develops key programs / mitigation programs to address and manage the identified risks and/or legal requirements / commitments.
- Assigns clear responsibilities and accountabilities
- Develops and assign tasks to implement the required controls.

Management plans are developed in consultation with relevant risk, task and action owners. Once finalised and approved, plans are upload to the Cadia Document Management System. Management Plans required by PA06_0295, once approved by NSW Department of Planning, Industry and Environment (DPIE) are published on the Cadia website (www.cadiavalley.com.au).

The following management plans are required to manage Environment and Community risks at Cadia:

- Environment Management Strategy*
- Water Management Plan*
- Rehabilitation Strategy*
- Land and Biodiversity Management Plan*
- Historical Heritage Management Plan*
- Aboriginal Cultural Heritage Management Plan*
- Dust Management Plan
- Noise Management Plan (under development)
- Blast Management Plan (under development)
- Waste Rock (including Acid and Metalliferous Drainage) Management Plan
- Waste Management Plan
- Water Operations Manual (under development)
- Fugitive Lighting Management Plan
- Hydrocarbon and Chemical Management Plan
- Mine Closure Plan
- Mining Operations Plan (Rehabilitation Plan)**
- Social Performance Management Plan

**Plan is required by the Cadia East Project Approval PA06_0295. The plan must be submitted to the NSW Department of Planning, Industry and Environment for approval. Refer to PA06_0295 for specific requirements regarding external review and approval processes.*

***Plan is required by Mining Lease Conditions. The plan must be submitted to the NSW Department of Planning, Industry and Environment – Resource Regulator for approval.*

2.4.1 Management Plan / Monitoring Program Consultation

The Cadia East Project Approval requires that specified Management Plans and Monitoring Programs are developed in consultation with regulatory agencies and groups such as the Cadia Community Consultative Committee. Following internal review and update of management plans and monitoring programs (within the specified timeframes), the documents will be sent by email to the respective agency or presented at the next quarterly CCC meeting as required. The consultation process and any feedback or comments received during the consultation process will be included in the document prior to sending to DPIE (via the Major projects Portal) for approval. The following table (Table 2) provides a summary of required consultation. Internal procedures provide additional detail and instruction on the review and consultation process.

Table 2 Management Plan / Monitoring Program Consultation

Plan	Consultation*	Responsibility
Environment Strategy	Nil	Environment Superintendent
Water Management Plan	DPIE Water EPA (if change relevant to EPL)	Environment Superintendent
Rehabilitation Strategy	RR, DRG, BCD, DPIE Water, Councils, CCC	Environment Superintendent
Land and Biodiversity Management Plan	BCD, DPIE Water, RR, Councils	Environment Superintendent
Historical Heritage Management Plan	Heritage NSW	Environment Superintendent
Aboriginal Cultural Heritage Management Plan	BCD, Orange Local Aboriginal Lands Council.	Environment Superintendent
Noise Monitoring Program	EPA	Environment Superintendent
Air Quality Monitoring Program	EPA	Environment Superintendent
Blast Monitoring Program	EPA	Environment Superintendent
*Schedule 2, Condition 14 "*with the agreement of the Secretary, the Proponent may prepare any revised strategy, plan or program without undertaking consultation with all parties under the applicable condition of this consent*".		
Acronyms		
DPIE Water	Water Group within the Department	
EPA	Environment Protection Authority	
RR	Resources Regulator within the Department	
DRG	Division of Resources and Geoscience within the Department	
BCD	Biodiversity and Conservation Division within the Department	
Councils	Blayney Shire Council, Orange City Council, Cabonne Shire Council ,	
CCC	Cadia Community Consultative Committee	
Heritage NSW	as Delegate of the NSW Heritage Council	

2.5 MONITORING PROGRAMS

Cadia is required to develop and implement a number of monitoring programs to measure potential environment and community impacts. The following documents outline Cadia's monitoring programs:

- Environment Management Strategy (this document (overall summary))
- Water Management Plan
- Land and Biodiversity Management Plan
- Historical Heritage Management Plan
- Air Quality Monitoring Program
- Noise Monitoring Program
- Blast Monitoring Program
- Social Performance Management Plan

Schedule 5, Condition 1(f) of the Cadia East Project Approval requires that "a clear plan depicting all environmental monitoring must be included in this Strategy". Relevant information is contained in Section 9 and in Appendices H, I and J of this document.

2.6 TRAINING AND COMPETENCY

All employees and contractors to Cadia are provided with general site induction training. Induction training references the significant Cadia environment and community risks and the relevant emergency response procedures.

An internal training needs analysis has been conducted that identifies employees and contractors that have specific responsibilities for the implementation of 'risk controls' (for Environment, Social Performance and Approvals risks). Training packages are currently under development for key employees.

2.7 INCIDENT / EMERGENCY MANAGEMENT

2.7.1 Cadia Emergency Management Plan

The Cadia Emergency Management Plan (EMP) identifies situations that require an emergency response, including scenarios that may result in an environment or community impact. Environment and social performance emergencies require a rapid and emergency response to evacuate, notify, contain or minimise potential harm. Examples of emergency scenarios include large dam / prescribed structure failure, large chemical / hyper contaminated water spill into flowing external waters, concentrate pipeline failure, bushfire, flood, air quality emissions with immediate and chronic health impacts

Cadia conducts periodic drills and testing of the EMP. Drills include the involvement of external response organisations and other stakeholders as appropriate.

Several Dam Safety Management and Emergency Plans exist for each prescribed dam structure and outline the management and response requirements for dam emergencies.

2.7.1.1 Internal resources

Cadia has an Emergency Response Team made up of ten permanent staff and approximately 40 trained volunteers from across the workforce. The Emergency Response Team undertakes training sessions on a weekly basis and also conducts full scale exercises in order to measure and improve the effectiveness of emergency management.

The Cadia Emergency Response team is equipped with resources and facilities designed to assist Cadia in effectively and safely responding to emergency situations or disasters. To ensure effective emergency response to a reported crisis incident, Cadia has implemented Emergency Response procedures for its operations. Each procedure is designed to address the following incidents:

- Injury;
- Unplanned Explosions;
- Chemical Spill / Gas Release;
- Tailings or water release;
- Entrapment;
- Vehicle Accidents;
- Fire/Explosions/Bushfire/Tyre Fires;
- Natural Disasters;

- Civil Disturbances/Criminal Activity/Bomb Threats;
- Loss of Company records; and
- Falls of Ground/Inrush.

2.7.2 Pollution Incident Response Management Plan

A Pollution Incident Response Management Plan (PIRMP) is required by any organisation that holds an Environment Protection Licence. Cadia has developed a PIRMP which provides clear instruction on the identification, reporting, escalation and external reporting of environmental incidents to regulatory and emergency response organisations. The PIRMP classifies incidents as either a level 1 incident (non-emergency, managed by site-based resources) or a level 2 (external emergency response and assistance required). The PIRMP is tested and reviewed on an annual basis. A public summary of the PIRMP is available on the Cadia website (www.cadiavalley.com.au).

2.7.3 External Reporting of Incidents

Cadia's approvals require the immediate external reporting to regulatory authorities of incidents that may result in actual or potential environmental harm. Any incidents that initiate an emergency response or the triggering of the PIRMP (Level 2) must be reported. Incidents that do not result in an emergency response or do not formally trigger the PIRMP, may still require reporting under Cadia's respective approvals.

Following the reporting of an incident, a follow up report to the relevant regulatory agency is required within 7 days.

Incidents are reported, escalated, investigated and corrective actions assigned using Cadia's internal Incident Management System, referred to as CHESS.

2.7.4 Managing non-compliances

Compliance with approvals is monitored through:

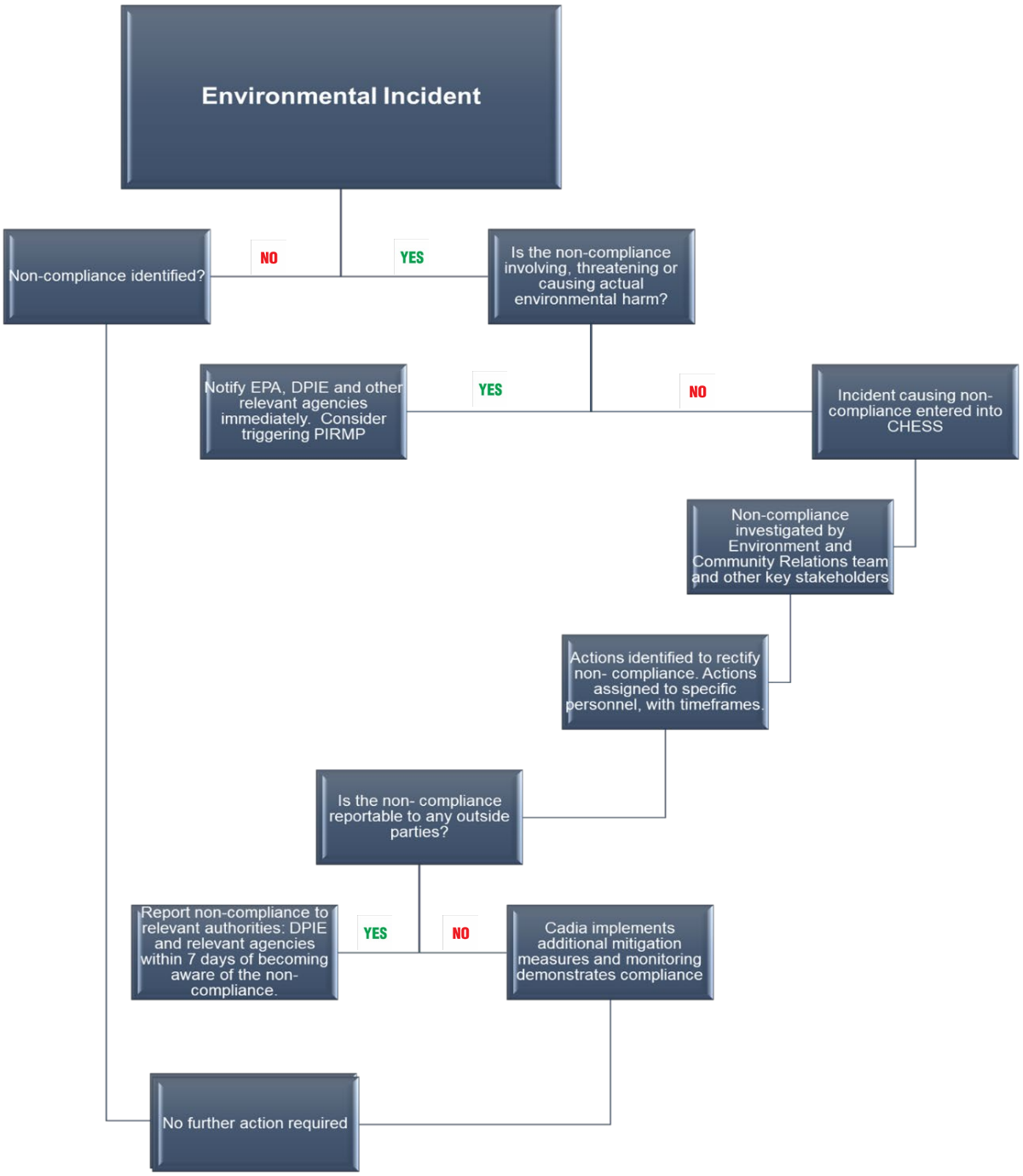
- Daily data checks (of environmental monitoring data),
- Monthly monitoring and assessment of environmental monitoring data (and associated independent assessment reports)

- Annual reporting processes
- Reporting of incidents (and subsequent investigation and corrective actions)
- Community complaints / notifications (including corrective actions)
- Internal environmental inspections,
- Internal environmental audits,
- External independent compliance audits and
- Audits by statutory authorities.

Where non-compliances are identified;

- From an incident, environmental monitoring or community complaint: the event is classified as an environmental or Community incident. Newcrest has standards and procedures to investigate incidents and identify corrective actions to prevent reoccurrence and ensure future compliance. Incident and investigation records, including the assigning and tracking of actions is maintained in a centralised incident management system (CHESS). The following flowchart outlines the process for managing and reporting environmental incidents (Figure 2-2)
- From audits and inspections: Agreed corrective actions are assigned and tracked through to completion in the centralised incident management system (CHESS).

Figure 2-2: Non-conformance flowchart



2.8 EXTERNAL REPORTING

Cadia's approvals require a number of external reports including :

- Annual Environment Management Report (Annual Review) *
- EPL 5590 Annual Return
- Environmental data monthly reporting (as per POEO Regulation and PA06_0295 (Schedule 5, Condition 9))
  - Meteorology*
  - Noise Monitoring results*
  - Blast Monitoring results*
  - Air Quality Monitoring Results*
  - Water quality*
  - Stream flow*
  - Groundwater level*
- EPBC Annual Report
- NGERS, NPI and Sustainability Reporting

External reports are drafted, reviewed, approved and published as described in the respective approval documents.

*Reports are published on the Cadia website (www.cadiavalley.com.au)

2.9 MANAGEMENT REVIEW, AUDITS, INSPECTIONS

Cadia has a requirement to undertake periodic checks and audits to ensure compliance with legal and other commitments and to identify opportunities for continuous improvement. The following sections provide further information on established audit processes.

2.9.1 Environmental Impact Permit

An Environmental Impact Permit (EIP) is an internal 'check' that is conducted prior to the commencement of a project. The purpose of the 'check' is to ensure the project is aligned and consistent with the various approvals and management plans at Cadia. The EIP process also allows for conditions to be imposed to mitigate environmental or social performance risks or improve the environmental outcomes of the project.

EIP's are undertaken in accordance with internal procedures.

2.9.2 Management Review

The Cadia Senior Leadership Team (SLT) conduct a quarterly review of the sites 'Environment and Social Performance Scorecard' to ensure projects and programs are tracking to schedule. (Refer to Section 2.3)

2.9.3 Internal Audits and Assurance

Cadia and Newcrest have established processes for measuring, assessing and improving environmental and community performance including:

- Annual internal audits (against Newcrest Standards)
- Internal assurance conducted as per the internal Cadia Assurance Management Plan.

Findings from internal audits and assurance processes are assigned and tracked through Cadia's internal incident management system (CHESS).

2.9.4 External Audits

The Cadia East Project Approval (PA 06_0295) requires an independent compliance audit be conducted on a three-yearly basis. The review is arranged and conducted in accordance with internal procedures. Completed audits along with Cadia's response to recommendations is published on the Cadia website (www.cadiavalley.com.au). Corrective actions are assigned in Cadia's internal incident management system (CHESS).

Regulatory authorities will, on occasion arrange either a planned or random inspection and/or audit. Inspections / audits are generally assessing the sites performance against specific compliance criteria or commitments as contained in the various approvals. Following the audit and agreement on corrective measures; actions are assigned in Cadia's internal incident management system (CHESS).

2.9.5 Environment Inspections

Environmental Inspections are conducted on a routine basis across operational areas at Cadia. The purpose of the inspections is to ensure compliance with Cadia's approvals and commitments. Inspections focus on general environment risk mitigation including:

- Hydrocarbon and chemical storage
- Waste management
- Housekeeping
- Noise and dust emissions
- Drainage and
- Other aspects

Inspections are planned, assigned and completed as per internal procedures. The inspection template is presented in Appendix K.

2.10 CONTINUOUS IMPROVEMENT

Continuous improvement is a key aspect of the internal ESPAMS. Continuous improvement requires that:

- Emerging environment, social performance and approvals risks are identified, risk assessed, and controls incorporated into management plans and work programs.
- Trends in environmental or social performance data that may indicate an emerging issue or risk are identified and corrected with corrective actions incorporated into management plans and work programs.
- Improved controls from incidents are robustly completed and embedded into management processes.
- Changing social, economic, political and legislative aspects are identified, considered with pre-emptive controls incorporated into management plans and work programs.

These aspects are implemented in accordance with internal procedures and incorporated into annual work plans and annual 'Objectives and Targets' (Refer to Section 2.3).

3. COMMUNICATION

Stakeholder communication is a key component of the ESPAMS and Social Performance Management Plan (SPMP). The SPMP maps Cadia's stakeholders and includes the following broad stakeholder groups:

- Directly Impacted
- Amenity Impacts
- Indirectly Impacted
- Cadia District Communities
- Cadia Workforce
- Local Government
- Elected Officials
- Senior NSW Government Officials
- Regulators - Primary
- Conservation Groups
- Business Groups
- Regional Media
- General Public

Established communication procedures include:

- A quarterly newsletter with a distribution list of 400 stakeholder, containing:
  - General Manager's update
  - Operations update, including updates on projects (e.g. Moly Plant), issues (dust management) and initiatives (e.g. partnering with Orange 360 to create centralised accommodation booking for the Cadia Expansion Project)

- Project Approvals and Modifications updates
- Cadia Sustainability
- Environmental management, monitoring and compliance
- Community Complaints list
- Cadia Community Consultative Committee (CCC) meetings
- Cadia Community Partnership Program and Cadia District Enhancement Project activities
- Relevant contact for further information, including listing the Cadia Valley Operations website and the Community Complaints Hotline

➢ Cadia Valley Website
- Community Complaints – updated monthly
- Previous 5 Years of Complaints
- Cadia CCC minutes – updated quarterly
- Cadia Community Partnership Program information – updated quarterly
- Cadia District Enhancement Project information - – updated quarterly
- Environment information:
  - Statutory Approvals
  - Annual Reviews
  - Management Plans
  - Monitoring programs
  - monitoring data,
  - monthly monitoring reports,
  - Independent Compliance Audit Reports

➢ Quarterly Cadia Community Consultative Committee meetings, presentation pack and minutes include:
- Operations update, including updates on projects (e.g. Moly Plant), issues (dust management) and initiatives (e.g. partnering with Orange 360 to create centralised accommodation booking for CXP)
- Project Approvals and Modifications updates
- Environmental management, monitoring and compliance updates
- Community Complaints updates
- Cadia Community Partnership Program and Cadia District Enhancement Project activities
- Relevant contact for further information, including listing the Cadia Valley Operations website and the Community Complaints Hotline

➢ Resident Consultation Meetings – held to inform and consult with the community on specific projects, including projects that trigger a PA Modification (invitation distribution list of 380 Cadia District stakeholders). Held on an ‘as-required’ basis.

➢ Project Briefings with Council and Regulatory Agencies - – held to inform and consult with Blayney, Cabonne and Orange Councils and regulatory agencies on specific projects, including projects that trigger a PA Modification. Held on an ‘as-required’ basis.

➢ Distribution of the Annual Review to all key regulatory agencies, local government and the Cadia CCC.

- Regular discussions with key regulatory agencies concerning environmental risks, programs, incidents and compliance reports / plans etc.
- Cadia District Resident Meetings – held to provide the community with general updates on Cadia's activities (invitation distribution list of 380 Cadia District stakeholders). Held six-monthly.
- Engagement with targeted groups of community stakeholder. Managed under issue specific Community & Stakeholder Engagement Project Plans, Cadia engages with smaller groups of stakeholders that may be impacted by operational activities (e.g. Aerial Campaign for Dust Suppression and Cadia Dewatering Works). Information sharing is based on a pamphlet that is mailed or letterbox dropped and may also include rounds of phone calls. Held on an 'as required' basis.
- One to One or small group meetings to share topical information with smaller groups of stakeholders that have requested information or expressed a concern. Held on an 'as requested basis.
- Special Interest Group Meetings – attendance / presentation of information at the regular meetings of special interest groups, e.g. ECCO and Belubula Landholder Association. Attended based on the meeting schedule of the Special Interest Group

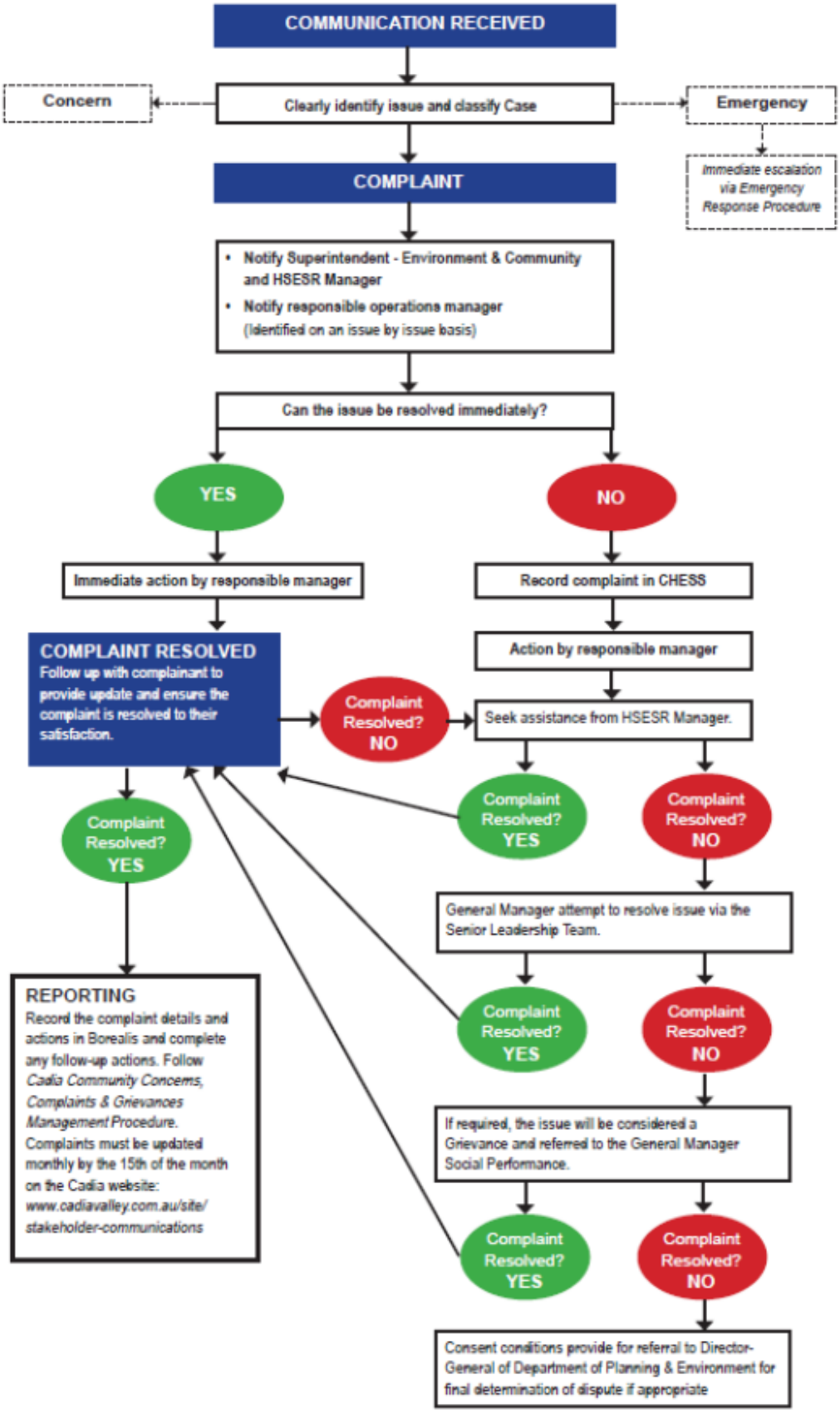
4. COMMUNITY COMPLAINTS

Cadia has an established procedure for responding to community complaints. The procedure outlines the process for recording and addressing community complaints in an appropriate timeframe. Complaints are managed and recorded according to the protocol in Figure 4-1.

A log of complaints and actions taken to address the complaint is kept in a centralised engagement database called Borealis, data is kept in perpetuity. A summary of community complaints is:

- Presented to the Cadia Community Consultative Committee on a quarterly basis
- Presented in the Cadia Annual Review
- Included in the Cadia District Residents Newsletter (quarterly)
- Available on the Cadia website (www.cadiavalley.com.au)

Figure 4-1: Cadia Complaints Management Protocol



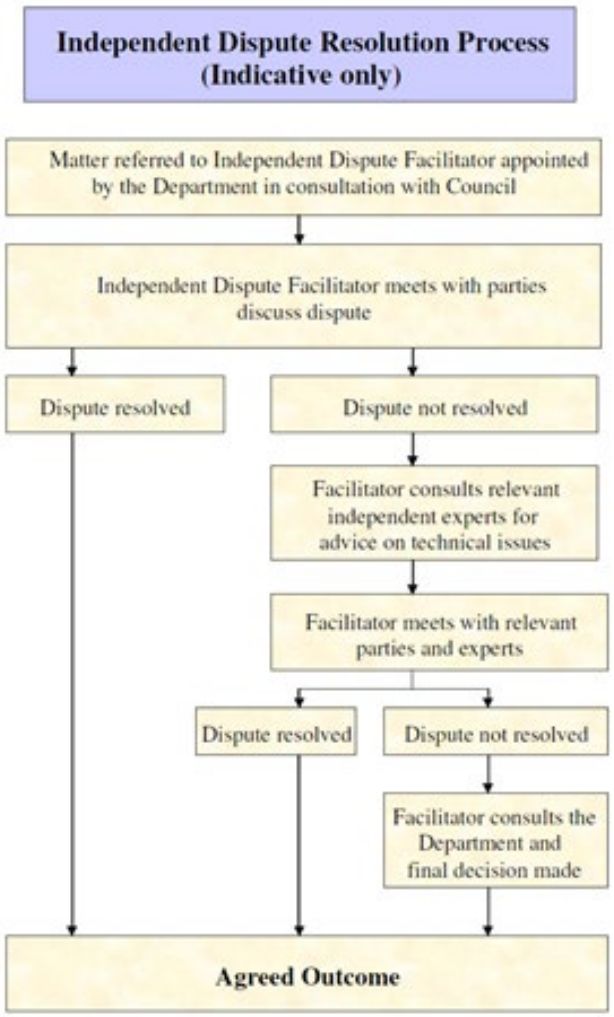
5. DISPUTE RESOLUTION

In the event that Cadia and a government agency, other than DPIE, cannot agree on the requirements applicable under the Project Approval, the matter shall be referred to the Secretary of DPIE. If not resolved by the Secretary, it will then be referred to the Minister for Planning, whose determination of the matter is final and binding.

In addition, if a dispute occurs between Cadia and a private landowner and cannot be resolved between the two parties, the matter will be referred to the Secretary of DPIE for resolution. If the matter cannot be resolved within 21 days, the Secretary shall refer the matter to an Independent Dispute Resolution Process as per Appendix 8 of the Cadia East Project Approval (Figure 5-1). In summary, if the Secretary of DPIE is satisfied that an investigation is required, Cadia shall:

- consult with the affected landowners;
- plan for appropriate investigations as approved by the Secretary;
- if exceedances are demonstrated to result from the mine related activity, Cadia shall take appropriate actions such as introducing additional controls or entering into an agreement with the landowner; and
- conduct follow-up investigations where necessary.

Figure 5-1: Cadia Dispute Resolution Process



6. ROLES AND RESPONSIBILITIES

The General Manager has overall responsibility for the environmental performance of Cadia. The Operational Managers have direct environment and community responsibility for their areas of control including the management / control of environment and community risks that arise from their Department's activities. The Manager, Health, Safety and Environment (HSE) has direct responsibility for ensuring the site meets its environmental obligations and develops, implements and monitors systems to check that the ESPAMS is applicable to current operations.

The Environment and Social Performance teams provide advice on environmental management to assist with maintaining compliance with environmental obligations of the Project and reducing impacts on the community surrounding Cadia's operations. The Environment Team also conducts environmental monitoring in accordance with the requirements of the various management plans and monitoring programs. The organisational structure for environmental responsibility is shown in Figure 6-1.

Environmental requirements and targets are included in the Operational Managers' position descriptions which then cascades into the job descriptions for key personnel across the site (refer to Section 2.6 for specific training and competency initiatives). Contractors working at Cadia must, as a minimum, comply with the sites ESPAMS requirements. Where contractors have their own Environmental Management System, the prevailing system will:

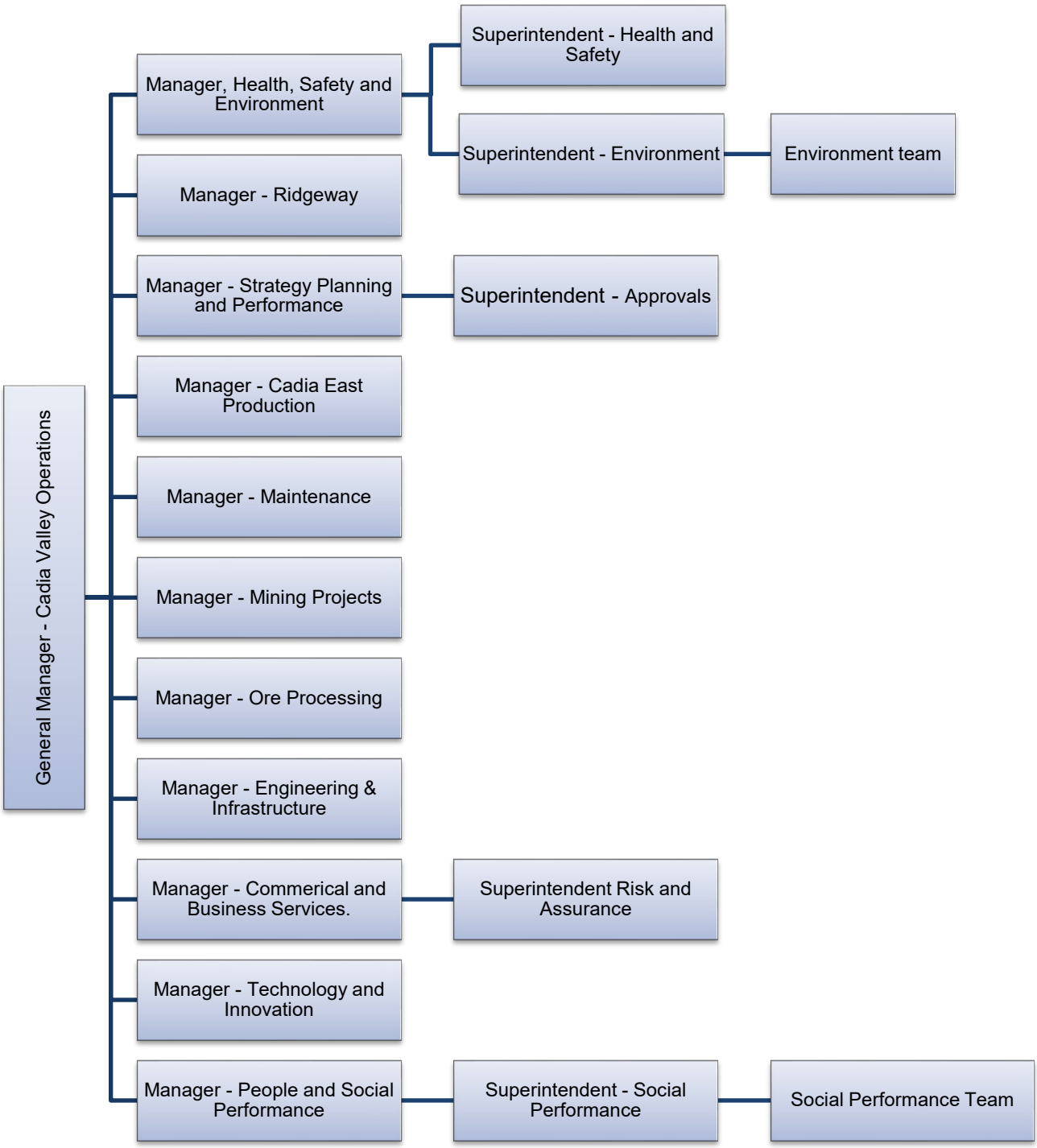
- as a minimum meet all consent requirement of the project
- provide the highest level of risk control.

All employees and contractors are expected to:

- Demonstrate by their day-to-day actions a visible commitment to the Health, Safety, Environment and Social performance requirements including legislative requirements, external commitments, Newcrest policies and Newcrest Standards;
- Accept responsibility for their compliance obligations and the management of the potential impacts of their work, including the implementation of controls to manage environment and community risk;
- Be aware of expected behaviors and have a clear understanding of the consequences of inappropriate conduct; and
- Be aware that they have the right and responsibility to stop work or refuse to work in situations that may cause harm (to their safety, the safety of others, to the environment, to the community), and to immediately bring these situations to the attention of those at imminent risk, and to management.

The General Manager or delegate has the obligation and authority to shut down any activities associated with the Project in response to a set of circumstances that causes or threatens to cause material harm to the environment.

Figure 6-1: Cadia Organisational Chart



7. RECORDS MANAGEMENT

To comply with the business and legislative requirements, Cadia maintains a document control system which is managed in accordance with internal standards and procedures. Key documents are retained in the Cadia Document Management System (CDMS) which is used to track, manage and store formal documents and records.

Record Retention is a requirement under both legal and business practices. The length of document retention will depend on the document type and the part of the business that it effects. Document Retention will also vary between electronic and hard paper copies. There are two ways that record retention is captured in the Cadia CDMS.

- Version History - The audit function is linked to individual documents within the Cadia CDMS. As documents are reviewed and updated over time the audit function date stamps the changes and allows a contributor to the system to select and review against the current approved document.
- Archive Library - The archive library allows superseded documents to be stored in a locked library and still hold the functions of the published environment with the version history and will keep tracking if ever reinstated into the live environment.

All documents and records are continuously backed up on the IT server and are retrievable.

All environmental monitoring data is retained for a minimum of seven years and the published monitoring data in Cadia Annual Environmental Monitoring Reports are filed and date back to 1999.

8. KEY DOCUMENTS

The Cadia East Project Approval (PA06_0295) requires that certain documents be produced, approved (by DPIE) and published (on the company's website). Management Plans and Monitoring Programs are reviewed (and updated if required) as per the Cadia East Project Approval or following a key change in the site's approvals, changes to monitoring sites or frequency or an update of the site risk register. The following table (Table 3) provides a summary of these documents, their current status and a link to their location on the Cadia website (www.cadiavalley.com.au). Due to the links provided, copies of the documents have not been included with this strategy as required by Schedule 5, Condition. 1(f).

Table 3 Management Plan Status

Document	Current Approved Version Date	Comment
Cadia Environmental Strategy	June 2021	
Cadia Air Quality Monitoring Program	December 2018	Reviewed following Independent Compliance Audit and consultation is occurring as per Section 2.4.1
Cadia Noise Monitoring Program	December 2018	
Cadia Blast Monitoring Program	August 2020	
Cadia Water Management Plan	December 2019	
Cadia Aboriginal Heritage Management Plan	July 2012	
Cadia Historical Heritage Management Plan	August 2020	
Rehabilitation Strategy	October 2019	
Land and Biodiversity (Landscape) Management Plan	May 2017	Currently under review.

9. MONITORING

9.1 MONITORING PROGRAMS

Monitoring programs have been developed for the Cadia mine site and also in the vicinity of the Cadia Dewatering Facility. Monitoring programs have been developed to:

- Assess potential impacts on:
  - the community,
  - sensitive environmental receptors,
  - private and public infrastructure.
- Meet the conditions and requirements of the Cadia East Project Approval PA06_0295 and Environment Protection Licence 5590.
- Measure the overall environmental performance of the operations.

Each monitoring program has been developed in consultation with relevant stakeholders (where relevant) to ensue monitoring is representative of community and stakeholder expectations.

The existing Cadia environmental monitoring programs include the following aspects (Table 4). A full description of the monitoring program is presented in the respective monitoring program / management plan as below. A clear plan (summary) of environmental monitoring is provided in Appendices H, I and J.

**Due to the cycle of document review, the most up to date monitoring programs and locations will be contained in the approved and published (www.cadiavalley.com.au) management plan or monitoring program as described below.*

Table 4 Monitoring Aspect and Respective Monitoring / Management Plan

Monitoring Aspect	Relevant Monitoring Programme / management plan	Appendix
Air quality	Cadia Air Quality Monitoring Program	Appendix H
Noise (operational and traffic)	Cadia Noise Monitoring Program	Appendix H
Vibration (Blast)	Cadia Vibration (Blast) Monitoring Program	Appendix H
Meteorological		Appendix H
Groundwater (level and quality)	Cadia Water Management Plan	Appendix I
Surface water (quality and flow)		Appendix J
Sediment Dams		Appendix H
Aquatic ecosystem monitoring	Land and Biodiversity (Landscape) Management Plan	Appendix H
Waste Rock Dump Cover System Performance		Appendix H
Pests and weeds		Appendix H
Rehabilitation Monitoring		Appendix H
Historical Heritage	Cadia Historical Heritage Management Plan	Appendix H

10. REVIEW

10.1 REVIEW OF STRATEGY

This Strategy will be periodically reviewed and updated if required to ensure the currency and usefulness of the document. The review will include an assessment of the effectiveness of the established system and its performance against the objectives.

Revision and update (if required) of the Strategy, will be triggered following one (or more) of the following scenarios:

- In accordance with Schedule 5, Condition 3 of the Cadia East Project Approval (PA06_0295):
  - Within 3 months of the completion of an annual review,
  - an incident requiring reporting under Schedule 5, Condition 5,
  - an Audit as required by Schedule 5, Condition 7 or
  - following a modification of the Cadia East Project Approval.
- An Environmental Incident ranked with a potential consequence of >= Category 3 (as per Newcrest Incident Reporting procedures)
- Significant trends observed in environmental incidents with a similar 'basic cause' indicating an increased likelihood of a level 3 environmental incident leading to material harm / community impact.
- A significant change to site operations (i.e. approval of a formal project approval modification with significant changes to environment or community risks)
- Following the completion of a formal site / independent compliance audit conducted or required by a regulatory authority.
- Significant changes in environmental monitoring data indicating an increased likelihood of a level 3 environmental incident leading to material harm / community impact.

11. APPENDICES

APPENDIX A: ENVIRONMENTAL POLICY

NEWCREST MINING LIMITED

Environmental Policy

Newcrest is committed to excellence in environmental performance to maintain and enhance our licence to operate.

Integrity and honesty

In particular, Newcrest will

- Inform all employees, contractors and vendors about this Policy and make them aware of their environmental responsibilities;
- Throughout the life-cycle of our activities engage with stakeholders to identify and manage sustainable development risks and opportunities as part of our business planning and execution;
- Comply with applicable environmental laws, regulations and voluntary commitments to which the organisation subscribes, as a minimum;
- Ensure effective systems, practices and documented plans are in place to manage and mitigate environmental impacts and pollution from our activities by proactively managing risks;
- Establish and document processes to identify and manage risks and opportunities for the efficient use of energy and water, manage emissions linked with climate change and reduce waste generation that lessens the Company's environmental footprint;
- Ensure that integrated approaches to land use planning and environmental management are implemented in areas where we operate and/or manage that contribute to the conservation of biodiversity;
- Integrate mine closure and progressive rehabilitation into the life-cycle of our operations to minimise our environmental legacies;
- Continually strive to improve our environmental performance based on defined objectives and targets for monitoring, measuring and reporting performance; and
- Report openly, honestly and in a timely manner to stakeholders on the Company's environmental and sustainability performance.

Sandeep Biswas
Managing Director and Chief Executive Officer

Newcrest Mining Limited
June 2017

APPENDIX B: NEWCREST BIODIVERSITY POLICY

NEWCREST MINING LIMITED

Biodiversity Policy

Newcrest is committed to protecting and managing biodiversity values

Newcrest commits to the protection and management of biodiversity values that are related to our operations in areas under our control or influence.

Newcrest will:

- Seek to engage with key stakeholders including government bodies and local communities to assess and manage biodiversity values in areas related to our project[1] sites.
- Not explore or mine in areas designated as World Heritage Sites.
- Comply with relevant laws and respect the requirements of legally designated protected areas.
- Focus on assessment and management of potential impacts on critical habitats and natural habitats in areas under our control or influence for new project sites[2].
- Strive to reduce impacts of new project sites on biodiversity and ecosystem service values through assessment of biodiversity risks at our operations and application of a mitigation hierarchy based on avoidance, mitigation and offsetting (if required).
- Aim to achieve no-net-loss of biodiversity values in relation to impacts on natural habitats and critical habitats as an outcome from the application of a mitigation hierarchy for new project sites.
- Seek to adopt practical biodiversity management measures aligned with leading industry practices that integrate biodiversity considerations with development objectives for our project sites.
- Prepare Biodiversity Action Plans (BAPs) aligned with industry guidelines for our project sites where risk assessments identify potential for impacts on biodiversity values.
- Work to raise awareness of employees at our project sites of the importance of protecting and managing biodiversity.
- Publicly report on company performance related to biodiversity using recognised industry approaches.

Sandeep Biswas
Managing Director and Chief Executive Officer
June 2019

[1] References to 'project sites' includes brownfield sites as well as greenfield sites.
[2] Note: 'New project sites' includes greenfield mining operation developments and significant brownfield expansions and does not include existing brownfield mining operations.

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APPENDIX C: NEWCREST SUSTAINABILITY POLICY

NEWCREST MINING LIMITED

Climate Change Policy

Newcrest is committed to the sustainable discovery, development and production of gold and copper. As a responsible miner we must identify, assess and report our responses to climate change challenges.

Newcrest recognises that climate change is one of the most significant challenges facing the world today. We acknowledge the climate change science and support the Paris Agreement goals. The mining sector has a role to play in reducing global greenhouse gas (GHG) emissions.

We recognise the need to identify and integrate climate change and energy issues into our strategic planning as we plan for portfolio growth. We are working in conjunction with our stakeholders including governments, investors, lenders, insurers, customers, suppliers, host communities and industry associations to develop strategies to play our role in the transition to a low carbon economy and contribute to adaptation plans in our operating countries. Newcrest will:

- Take action to appropriately identify and manage climate change risks and opportunities, consistent with our objective to sustainably deliver superior returns to our shareholders.
- Seek opportunities to better understand the life-cycle greenhouse gas (GHG) emissions for the gold and copper value chains.
- Seek to increase the transparency of our climate change reporting of performance metrics and targets to meet the needs of our stakeholders including governments, investors, lenders, insurers, customers and communities.
- Report our energy use, Scope 1 and Scope 2 GHG emissions and our performance against our GHG intensity target annually. We will work with our suppliers and customers to better understand our Scope 3 emissions.
- Ensure that our measuring, reporting and verification (MRV) processes are robust across all operating sites.
- Pro-actively assess options to increase our use of renewable power and low emission energy technologies to reduce our GHG emissions intensity. We will also focus on opportunities to improve our energy efficiency to reduce energy used and reduce direct mining costs.
- Identify and pursue best practices in the mining and metals industry and partner with technology developers to explore new opportunities for gold and copper extraction and processing in the transition to a low carbon future.
- Continue to assess climate change scenarios and the projected future price of energy in our medium to long term portfolio analysis, ensuring that the cost of carbon informs our business decisions.
- Partner with experts and research organisations to identify potential physical threats from climate change at our current and planned operating sites and invest in appropriate adaptation responses to build resilience.
- Contribute constructively to policy development in our host countries and share international learnings with governments and industry bodies to promote stable, predictable regulatory regimes to facilitate investment.

Sandeep Biswas
Managing Director and Chief Executive Officer
June 2019

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APPENDIX D: NEWCREST COMMUNITIES POLICY

NEWCREST MINING LIMITED

Communities Policy

Newcrest cares about the wellbeing of people in our host communities and aspires to be the Miner of Choice™ wherever we explore and operate.

We are committed to active and inclusive consultation and engagement with our lease area landholders and surrounding host communities.

We commit to supporting local socioeconomic development as a pathway to achieving sustained community development beyond mine closure.

Our approach includes engaging in community partnerships to support mutually-beneficial outcomes.

Newcrest strives to apply the following principles in our dealings with communities:

- Comply with applicable laws, regulations and all voluntary commitments to which Newcrest subscribes wherever we operate;
- Respect and protect the human rights of our host community members in all our own dealings with them, and seek honest and open relationships built on mutual trust;
- Establish and maintain an open, accessible and transparent process to enable people and communities to raise concerns, complaints and grievances and have these resolved in a timely manner;
- Respect the cultural heritage, customs and traditions of our host communities including those of Indigenous People impacted by our activities, and work to build cultural awareness across all of our operations;
- Identify and strive to minimise adverse social and environmental impacts that might occur in the communities in which we operate;
- Engage early, openly, honestly and regularly with the communities impacted by our operations and consider their views in our decision-making;
- Contribute towards creating sustained value and aspire to leave a positive legacy beyond mine closure;
- Compensate people whose lands and assets are impacted during our period of activities;
- Build a workforce that includes and represents the diverse communities that host our activities;
- Promote local business development and contractor opportunities and establish working relationships with local suppliers to build community capability and value through the delivery of safe and effective services for our activities; and
- Report transparently and in a timely manner on our social and sustainability performance.

Sandeep Biswas
Managing Director and Chief Executive Officer
3 October 2019

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APPENDIX E: NEWCREST WATER STEWARDSHIP POLICY

NEWCREST MINING LIMITED

Water Stewardship Policy

Newcrest is committed to the transparent, holistic and sustainable management of water across our operations.

Newcrest commits to effective stewardship of water resources in areas under our control or influence within the catchments in which we operate.

Newcrest will:

- Publicly disclose the company's approach to water stewardship and strive to identify and engage proactively and inclusively with stakeholders that may influence or be affected by operational water use and discharge in areas related to our activities.
- Engage on external water governance issues either directly or via industry bodies with governments, local authorities and community stakeholders to support effective regulation that underpins integrated water resource management.
- Aim to consistently integrate water considerations into strategic business planning including allocation of responsibilities and accountabilities for water at key levels of the business.
- Seek to identify, evaluate, and respond to catchment-level water-related risks and opportunities.
- Focus on proactively managing water quantity and quality to reduce potential socio-environmental impacts and to realise water stewardship opportunities.
- Establish water quality and efficiency targets for our sites based on water balances that consider catchment-wide water uses and cumulative water impacts within the catchments where our operations are located.
- Seek to support water stewardship initiatives that promote efficient water use, effective catchment management and contribute to improved water security and sanitation in areas related to our operations.
- At their place of work, provide our workforce with access to clean drinking water and gender-appropriate sanitation facilities.
- Publicly report on company water performance, key water related material risks and opportunities and describe relevant management responses using common industry metrics and recognised approaches.

Sandeep Biswas
Managing Director and Chief Executive Officer
June 2019

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APPENDIX F: ENVIRONMENTAL STANDARDS

Standard

Environmental Standards

Standard Number: EN ST 01 _12

Scope of Application: Newcrest Mining Limited

Document Number: 100-900-EN-STA-01_12

Revision: 3.0

Issued: 18/11/2016

Document Owner: Head of Environment

Environmental Standards

1. Responsibilities and Accountability

The following table outlines key accountabilities and responsibilities in relation to the standard development and update process:

Table 1: Responsibilities and Accountabilities

	Responsible (Who is assigned to work on the task)	Accountable (Who has authority to make the final decision)	Consulted (Stakeholders who can help with task)	Informed (Who has to be kept up to date with work)
Development or update of individual standards to ensure alignment with desired companywide discipline outcomes with HSE	Nominated Specialist Team member e.g. SME for Elements 2, 4 and 5	Lead ExCo Member	Wider specialist team	ExCo Group and Site HSE Teams Gm's
Approval for standards to be issued for use in the business	GM HSES	CEO	ExCo GM's	GM HSES
Implementation of standards in the business	HSE Team	Site GM Functional GM	EGM Specialist Team Users of the system	Wider business unit employees as required
Assurance that standards are in place	Audit Leader Audit Team	GM HSES	Site GM Functional GM HSE Team members	ExCo

2. Document Control and Approval

No amendments to this document may be made without the approval of the Document Owner.

Table 2: Document Owner and Approval

Position	Name	Endorsement
Head of Environment	Blair Sands	15/11/2016
GM HSES	Peter Cowley	15/11/2016
ExCo	ExCo Group	18/11/2016

EN ST01 Acid and Metalliferous Drainage Management Standard

1. INTENT

1.1. This Standard details the requirements for management of acid and metalliferous drainage (AMD) at Newcrest operations.

2. APPLICATION

2.1. This standard shall apply to all managed Newcrest sites throughout the entire lifecycle, including exploration, construction, development and closure.

2.2. The standard shall apply to all Newcrest employees, contractors, sub-contractors and visitors.

2.3. No work shall be performed by any employee, contractor, sub-contractor or visitor unless they are trained, verified as competent and authorised to start that work by an authorised Newcrest person.

3. PERFORMANCE REQUIREMENTS

3.1. Planning

3.1.1. Acid and metalliferous drainage must have clear accountability and be managed in compliance with relevant permits and regulatory requirements. Where risk assessment identifies significant sensitive environmental receptors that are not adequately protected by regulatory permit conditions, site based monitoring and environmental management systems shall be applied to complement regulatory requirements.

3.1.2. Baseline characterisation and sampling must be undertaken which identifies and documents the geological setting and the potential for acid and metalliferous drainage

3.1.3. Prepare and maintain risk assessments relating to acid and metalliferous drainage and apply controls to manage risks. Update risks assessments prior to significant operational or project changes relevant to AMD management.

3.2. Implement and Operate

3.2.1. All sites and projects with potential to generate AMD must develop, implement and maintain an AMD Management Plan to manage potential releases and environmental impacts.

3.2.2. Maintain an inventory specifying the quantity, location and characteristics of materials with potential to generate or mitigate AMD.

3.2.3. Develop and implement operational procedures to manage and mitigate risks relating to AMD.

3.2.4. All facilities with potential AMD risk shall be closed in accordance with the Mine Closure Plan to mitigate risks.

3.2.5. The closure of facilities with potential AMD risk must ensure geotechnical and geochemical stability, the control of infiltration and seepage and eliminate where possible the need for ongoing treatment and management.

4. PERFORMANCE MEASURES

4.1. Monitor

4.1.1. Each site with potential AMD risk shall maintain a monitoring program appropriate to the potential for AMD impacts.

EN ST02 Air Quality Management Standard

1. INTENT

1.1. This Standard details the requirements for management of air emissions at Newcrest operations.

2. APPLICATION

2.1. This standard shall apply to all managed Newcrest sites throughout the entire lifecycle, including exploration, construction, development and closure.

2.2. The standard shall apply to all Newcrest employees, contractors, sub-contractors and visitors.

2.3. No work shall be performed by any employee, contractor, sub-contractor or visitor unless they are trained, verified as competent and authorised to start that work by an authorised Newcrest person.

3. PERFORMANCE REQUIREMENTS

3.1. Planning

3.1.1. Management of air emissions shall be carried out in accordance with relevant regulatory requirements and permit conditions. Where risk assessment identifies significant sensitive environmental receptors that are not adequately protected by regulatory permit conditions, site based monitoring and environmental management systems shall be applied to complement regulatory requirements.

3.1.2. Document and maintain risk assessments for the management of air emissions.

3.1.3. Measure background ambient air levels and meteorological conditions to assess potential impacts on air quality from emissions related to Newcrest activities.

3.1.4. Identify known and potential sensitive environmental and community receptors and the potential impacts that air emissions may have on these receptors

3.2. Implement and Operate

3.2.1. Develop and maintain an inventory of point source and fugitive emissions.

3.2.2. Document methodologies, models and assumptions used in the characterisation and modelling of air emissions.

3.2.3. Design, install and maintain appropriate emissions control technologies to manage those air emissions identified as having potential or actual environmental and/or community health impacts.

3.2.4. Develop and maintain an abatement program that quantifies all significant air emissions originating from the operation or project and specifies abatement controls for those emission types including greenhouse gas emissions.

3.2.5. Develop and implement procedures for the design, installation, operation and maintenance of air emission control facilities. These procedures shall be linked to the air monitoring program and incorporate a maintenance strategy for all air emission control infrastructure.

3.2.6. Prepare emergency response procedures for unplanned events such as abnormal emission events and dispersion conditions, possible exceedances of air quality criteria and potential impacts to the health of the community.

4. PERFORMANCE MEASURES

4.1. Monitor

4.1.1. Implement inspection programs to facilitate the checking, maintenance, and calibration of emissions abatement technologies and other procedural controls including corrective action components.

4.1.2. Develop and maintain an air emissions monitoring program that quantifies all significant air emissions originating from the operation or project.

EN ST03 Biodiversity Management Standard

1. INTENT

1.1. This Standard details the requirements for management of biodiversity influenced by Newcrest activities.

2. APPLICATION

2.1. This standard shall apply to all managed Newcrest sites throughout the entire lifecycle, including exploration, construction, development and closure.

2.2. The standard shall apply to all Newcrest employees, contractors, sub-contractors and visitors.

2.3. No work shall be performed by any employee, contractor, sub-contractor or visitor unless they are trained, verified as competent and authorised to start that work by an authorised Newcrest person.

3. PERFORMANCE REQUIREMENTS

3.1. Planning

3.1.1. Biodiversity aspects shall be managed to ensure compliance with relevant regulatory permits and approvals and any voluntary standards or codes of which Newcrest is a signatory. Where risk assessment identifies significant sensitive environmental biodiversity receptors that are not adequately protected by regulatory permit conditions, site based monitoring and environmental management systems shall be applied to complement regulatory requirements.

3.1.2. A documented knowledge base must be developed and maintained of regional biodiversity features and their significance.

3.1.3. The risks and potential impacts to biodiversity due to Newcrest activities shall be identified and assessed prior to disturbance of new land areas.

3.1.4. Integrate Biodiversity Management into project planning and decision making through the complete project life-cycle, facilitating the design projects that avoid potential significant impacts on Biodiversity and identify opportunities to protect and enhance Biodiversity.

3.2. Implement and Operate

3.2.1. Develop and maintain a Biodiversity Management Plan that will include the following as a minimum:

3.2.1.1. An overview of the knowledge base;

3.2.1.2. A summary of the biodiversity values assessment;

3.2.1.3. Legal obligations and commitments relating to biodiversity protection;

3.2.1.4. The application of a mitigation hierarchy of avoid, minimize, mitigate and offset for potential impacts in agreement with regulatory bodies; and,

3.2.1.5. Improvement objectives, targets and actions for integration into relevant mine or project plans e.g. Environmental Management Plan, Land Use Management Plan and Closure Plan.

4. PERFORMANCE MEASURES

4.1. Monitor

4.1.1. Develop and implement processes to track implementation of the Biodiversity Management Plan objectives including monitoring in accordance with the Plan or as required by regulatory conditions.

EN ST04 Cyanide Management Standard

1. INTENT

1.1. This Standard, details the requirements for management of cyanide at Newcrest operations.

2. APPLICATION

2.1. This standard shall apply to all managed Newcrest sites throughout the entire lifecycle, including exploration, construction, development and closure.

2.2. The standard shall apply to all Newcrest employees, contractors, sub-contractors and visitors.

2.3. No work shall be performed by any employee, contractor, sub-contractor or visitor unless they are trained, verified as competent and authorised to start that work by an authorised Newcrest person.

3. PERFORMANCE REQUIREMENTS

3.1. Planning

3.1.1. Newcrest is a signatory to the International Cyanide Management Code and sites that utilise cyanide are required to implement the Code and be audited for certification.

3.1.2. Prepare and maintain risk assessments for the management of cyanide and implement identified controls for significant risks.

3.1.3. Ensure cyanide is purchased from manufacturers employing appropriate practices and procedures to limit exposure of their workforce to cyanide and to prevent releases of cyanide to the environment.

3.1.4. Design, construct and operate unloading, storage and mixing facilities to prevent or contain releases and control and respond to potential worker exposures.

3.1.5. Implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventive maintenance.

3.1.6. Develop and implement management and operating systems to minimise cyanide use.

3.1.7. Implement a comprehensive water management program aligned to the requirements of the Newcrest Water Management Standard to protect against unintentional releases.

3.1.8. Develop and implement procedures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions, and to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.

3.1.9. Develop and implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of ground water and provide spill prevention or containment measures for process tanks and pipelines.

3.1.10. Plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife and livestock.

3.1.11. Develop and implement emergency response plans and procedures.

3.1.12. Provide training to employees and contractors to understand the hazards associated with cyanide use and where required, training for relevant personnel on the response to human exposures and environmental releases.

3.2. Implement and Operate

3.2.1. The impact and application of the standard will be assessed by regular internal and external assessments and audits, which will include assessment of compliance with the Cyanide Code.

4. PERFORMANCE MEASURES

4.1. Monitor

4.1.1. Implement monitoring programs to evaluate the potential effects of cyanide on wildlife, surface and ground water quality.

EN ST05 Deep Sea Tailings Placement (DSTP) Standard Management

1. INTENT

1.1. This Standard details the requirements for management of deep sea tailings placement (DSTP) at Newcrest operations.

2. APPLICATION

2.1. This standard shall apply to all managed Newcrest sites throughout the entire lifecycle, including exploration, construction, development and closure.

2.2. The standard shall apply to all Newcrest employees, contractors, sub-contractors and visitors.

3. PERFORMANCE REQUIREMENTS

3.1. Planning

3.1.1. The design, engineering, construction and operation of deep sea tailings placement (DSTP) facilities are to be aligned with the requirements of the Scottish Association of Marine Science guidelines.

3.1.2. Characterise the physico-chemical and ecotoxicological characteristics of a representative sample of tailings and determine the need for pre-discharge treatment or dilution of the tailings to ensure compliance with relevant regulatory conditions.

3.1.3. Carry out site investigations and select a suitable discharge site based on tailings characteristics and physical environment. (i.e. tailings density, seafloor angle, bathymetry).

3.1.4. Over at least one annual cycle prior to design and construction of the DSTP system, collect oceanographic data and determine the seasonal range in the depth of the surface mixed layer, the euphotic zone and the maximum depth of upwelling (if any).

3.1.5. Ensure that the depth of the DSTP outfall is set to be below the deepest surface mixed layer depth the euphotic zone depth and below the maximum expected depth of upwelling (if any) with an appropriate margin of safety.

3.1.6. Before adopting DSTP as the preferred tailing management option undertake an assessment of alternative methods for tailings management (except riverine disposal).

EN ST05 Deep Sea Tailings Placement (DSTP) Standard Management

3.1.7. Use modelling and other impact assessment techniques to predict the post-discharge behaviour and fate of the tailings including potential water quality and marine biological effects in the ocean water column and on the ocean floor both during deposition, operation and during the post-closure period.

3.1.8. Complete a comprehensive environmental, human health and marine resource use baseline study against which future changes can be compared.

3.1.9. Obtain formal regulatory approval to implement DSTP following appropriate stakeholder consultation and environmental and social studies.

3.1.10. The design of the DSTP facility must be undertaken by a suitably-experienced engineering design company and be independently reviewed prior to the commencement of construction.

3.1.11. The DSTP system design must ensure there is adequate de-aeration of the tailing slurry prior to discharge.

3.1.12. The construction of the DSTP facility must be undertaken by a suitably-experienced engineering construction company and be independently reviewed prior to the commencement of construction.

3.2. Implement and Operate

3.2.1. Implement a DSTP Management Plan including responsibilities and accountabilities for operational procedures to appropriately manage all aspects of the DSTP system (i.e. operation, inspection, maintenance and environmental monitoring) to mitigate significant risks and ensure compliance with regulatory requirements.

3.2.2. The DSTP Management Plan must be reviewed annually by the site and every three years by a suitably-experienced independent DSTP specialist and updated as required.

3.2.3. The scope of the DSTP Management Plan shall include operational procedures covering:

3.2.3.1. Start-up, normal and abnormal operating conditions, shutdown, contingency plans and emergency response;

3.2.3.2. Processes to detect if operating conditions are not within design parameters and apply response mechanisms;

3.2.3.3. Systems to maintain an inventory of tailings disposed; and

EN ST05 Deep Sea Tailings Placement (DSTP) Standard Management

3.2.3.4. Regular internal and external inspections of pipelines to proactively monitor the rate of wear and replace worn components as required.

4. PERFORMANCE MEASURES

4.1. Monitor

4.1.1. The DSTP Management Plan must be integrated with relevant Environmental Management and Monitoring Programs (EMMPs), or equivalent, that include regular physio-chemical and biological monitoring to confirm compliance with regulatory requirements and performance of controls, including:

4.1.1.1. The depositional footprint of tailings solids on the ocean floor for comparison with the predicted modelled footprint;

4.1.1.2. The occurrence of upwelling or metal speciation;

4.1.1.3. Biological Monitoring;

4.1.2. Formulate, prioritise and undertake research programs to understand key aspects of the DSTP system and help design mitigation measures and management plans such as:

4.1.2.1. The post-discharge behaviour and distribution of tailing slurry;

4.1.2.2. Long-term trends in the abundance and diversity of benthic biota at potentially impacted sites and control sites;

4.1.2.3. The potential for food chain bioaccumulation and possible impacts on human health;

4.1.2.4. Potential for seabed slumping; and

4.1.2.5. Predicted post closure responses of the marine environment and seabed.

EN ST06 Hydrocarbon and Chemical Management Standard

1. INTENT

1.1. This Standard details the requirements for management of hydrocarbons and hazardous chemicals at Newcrest operations.

2. APPLICATION

2.1. This standard shall apply to all managed Newcrest sites throughout the entire lifecycle, including exploration, construction, development and closure.

2.2. The standard shall apply to all Newcrest employees, contractors, sub-contractors and visitors.

2.3. No work shall be performed by any employee, contractor, sub-contractor or visitor unless they are trained, verified as competent and authorised to start that work by an authorised Newcrest person

3. PERFORMANCE REQUIREMENTS

3.1. Planning

3.1.1. Management of hydrocarbons and hazardous chemicals must be undertaken in accordance with relevant permits and regulatory requirements. Where risk assessment identifies significant sensitive environmental receptors that are not adequately protected by regulatory permit conditions, site based monitoring and environmental management systems shall be applied to complement regulatory requirements.

3.1.2. Prepare and maintain risk assessments relating to the selection, transportation, storage, use and disposal of hazardous chemicals.

3.1.3. Develop and maintain a hazardous chemicals register including volumes and storage locations and make the register available to emergency services.

3.1.4. The design and construction of hazardous chemical storage areas must:

3.1.4.1. Meet relevant statutory and regulatory requirements;

3.1.4.2. Incorporate appropriate fire detection and prevention measures;

3.1.4.3. Enable segregation of incompatible materials;

3.1.4.4. Provide leak detection and/or containment and collection systems to prevent releases to the environment;

3.1.4.5. Enable access to Safety Data Sheet information;

3.1.4.6. Provide appropriate and visible signage and placarding; and,

3.1.4.7. Integrate appropriate buffer distances from sensitive receptors to prevent potential impacts on communities or environmental receptors.

3.2. Implement and Operate

3.2.1. Where practicable, storage tanks and pipelines containing hazardous chemicals shall be located above ground and have impermeable secondary containment to prevent spills from reaching the environment.

3.2.2. Develop and implement operational procedures to manage and mitigate risks relating to hydrocarbons and hazardous chemicals management including:

3.2.2.1. Processes to approve hazardous chemicals bought onto site;

3.2.2.2. Processes to reduce the quantities of hazardous chemicals used at site where possible and use alternatives where appropriate that pose lower risk to safety, health and the environment;

3.2.2.3. The safe and appropriate transportation, storage, handling, use and disposal of hazardous materials;

3.2.2.4. Labelling and placarding of storage vessels, containers and tanks in accordance with appropriate statutory requirements.

3.2.2.5. Emergency management procedures and training.

3.2.3. Develop and implement procedures for the management of third party suppliers and transporters that address:

3.2.3.1. Selection criteria;

3.2.3.2. Chain of custody and tracking protocols;

3.2.3.3. Inspections; and

3.2.3.4. Competency of personnel.

3.2.3.5. Develop a training system for appropriate personnel on hazardous chemical use and management.

4. PERFORMANCE MEASURES

4.1. Monitor

4.1.1. Develop an inspection and monitoring program appropriate to the level of risks for hazardous chemicals storage and handling.

EN ST07 Land Use and Disturbance Management Standard

1. INTENT

1.1. This Standard details the requirements for management of Land Use and Disturbance associated with Newcrest activities.

2. APPLICATION

2.1. This standard shall apply to all managed Newcrest sites throughout the entire lifecycle, including exploration, construction, development and closure.

2.2. The standard shall apply to all Newcrest employees, contractors, sub-contractors and visitors.

2.3. No work shall be performed by any employee, contractor, sub-contractor or visitor unless they are trained, verified as competent and authorised to start that work by an authorised Newcrest person

3. PERFORMANCE REQUIREMENTS

3.1. Planning

3.1.1. Land use and disturbance must be managed in accordance with relevant regulatory requirements and permit conditions. Where risk assessment identifies significant sensitive environmental receptors that are not adequately protected by regulatory permit conditions, site based monitoring and environmental management systems shall be applied to complement regulatory requirements.

3.1.2. Document and maintain risk assessments relating to land management including identified controls for significant risks.

3.1.3. A register of tenure information must be maintained for all land where Newcrest activities are undertaken.

3.1.4. Map land use domains across the operation that define the permitted land use and constraints in each area. Ensure land use domains have been developed with regard to the interests of key stakeholders and rehabilitation and closure objectives.

3.2. Implement and Operate

3.2.1. Develop, implement and maintain a Land Use Management Plan that must include as a minimum:

3.2.1.1. A summary of the tenure, customary/traditional land ownership, physical and social setting;

3.2.1.2. Protected areas or limitations on land use;

3.2.1.3. Objectives and targets relating to use and management of land

which are consistent with the closure plan including annual targets for progressive rehabilitation;

3.2.1.4. Responsibilities and accountabilities for land-use management;

3.2.1.5. Obligations and commitments related to land use management;

3.2.1.6. Stakeholder engagement processes relating to land management and land access;

3.2.1.7. A summary of the risk assessment and key controls;

3.2.1.8. A register of contaminated sites with coordinates and remediation plans;

3.2.1.9. Procedures for monitoring and maintenance; and

3.2.1.10. Emergency preparedness and response measures for land related events.

3.2.2. Develop and implement operational procedures for land management including inspections and monitoring programs for the following areas:

3.2.2.1. Land clearance and vegetation removal authorisation;

3.2.2.2. Sediment and erosion control;

3.2.2.3. Top soil management;

3.2.2.4. Land access and stakeholder engagement;

3.2.2.5. Management of soil contamination and remediation.

4. PERFORMANCE MEASURES

4.1. Monitor

4.1.1. The coordinates of all disturbed land shall be recorded in a land disturbance register or equivalent system.

EN ST08 Mine Closure Management Standard

1. INTENT

1.1. This Standard details the requirements for Mine Closure management at Newcrest operations.

2. APPLICATION

2.1. This standard shall apply to all managed Newcrest sites throughout the entire lifecycle, including exploration, construction, development and closure.

2.2. The standard shall apply to all Newcrest employees, contractors, sub-contractors and visitors.

2.3. No work shall be performed by any employee, contractor, sub-contractor or visitor unless they are trained, verified as competent and authorised to start that work by an authorised Newcrest person.

3. PERFORMANCE REQUIREMENTS

3.1. Planning

3.1.1. Management of Mine Closure must be undertaken in accordance with relevant regulatory and internal requirements and in consideration of stakeholder expectations.

3.1.2. Document and maintain risk assessments relating to Closure (including controls and accountabilities) applicable to each key phase of project development and mine life.

3.1.3. Closure Plans shall be developed by multidisciplinary teams (e.g. with input from Mine Planning, Safety, Health, Environment, Communities, Finance, Human Resources, Legal etc.).

3.1.4. Closure Plans shall include a closure options analysis to justify the selection of preferred closure options as the basis for activities to be scoped and costed.

3.1.5. A stakeholder mapping and consultation program shall be developed and implemented by the site as a component of closure planning.

3.1.6. Closure planning shall be consistent with internal Community Strategic Plans and take into consideration regional government development plans.

3.1.7. The Closure Plan shall include workforce strategies during the transition from operations to closure (e.g. timing of key communication, retention of critical roles, employee support programs etc.).

3.1.8. Scope specific closure activities for each area (or domain) of the operation that also considers the potential impact of closure on local

communities.

3.1.9. The Closure Plan shall include details of annual progressive rehabilitation activities, costs and schedule.

3.1.10. The Closure Plan shall consider facilities or mine infrastructure that could be transferred to government or community stakeholders. Financial provisions should include the facilities until formal handover agreements are finalised.

3.1.11. The Closure Plan shall include a knowledge base of information (cross referencing relevant reports where required) including, but not limited to:

3.1.11.1. Regulatory requirements and local community or stakeholder agreements;

3.1.11.2. Stakeholder map;

3.1.11.3. Socio-economic context and cultural aspects including sites of cultural significance;

3.1.11.4. Workforce profile (e.g. local hire, FIFO, Employee or Contractor numbers);

3.1.11.5. Description of the physical and biological environment including surface and groundwater; and

3.1.11.6. Mineralogy and potential for Acid and Metalliferous Drainage.

3.1.12. All closure documents and records shall be archived securely for future reference in accordance with regulatory and corporate requirements.

3.2. Implement and Operate

3.2.1. Auditable estimates of closure costs as the basis for financial provisions shall be included in the Closure Plan.

3.2.1.1. Closure cost estimates shall be prepared considering the most recent estimate of expected costs

3.2.1.2. Closure cost estimates shall be provided to the following accuracy ranges based on predicted life and Newcrest Gold Book (Investment Management):

3.2.1.2.1. During project development stages and for sites with a predicted life of greater than 25 years, develop a cost estimate accuracy of +/- 35% (Conceptual Study).

3.2.1.2.2. For sites with a predicted life of between 25 and 10 years a cost estimate accuracy of +/- 25% (Prefeasibility Study) is required.

3.2.1.2.3. For sites with 10 years or less to predicted closure a

cost estimate accuracy of +/- 15% (Feasibility) is required.

3.2.1.2.4. Decommissioning plans to be prepared for site with an operational life <2 year to +/- 10% (Execution) cost accuracy. *Note the decommissioning plan can form part of the mine closure plan.*

3.2.1.3. The closure cost estimate shall:

3.2.1.3.1. Detail the underlying costing methodology;

3.2.1.3.2. Provide details of the underlying assumptions, uncertainties, exclusions, quantities, unit rates and exchange rates used;

3.2.1.3.3. Be based on site-specific information, studies and data wherever possible;

3.2.1.3.4. Include estimates of closure related workforce costs including redundancies (which may be excluded for external reporting of provisions under accounting rules);

3.2.1.3.5. Not include salvage values of any demolished plant, equipment and materials;

3.2.1.3.6. Be established for both planned and unplanned closure;

3.2.1.3.7. Establish a best estimate based upon an assessment of the range of possible outcomes;

3.2.1.3.8. Be calculated with reference to current prices, undiscounted;

3.2.1.3.9. Be prepared in Australian dollars for Australian operations;

3.2.1.3.10. Be prepared in the local currency and converted to United States dollars for non-Australian operations;

3.2.1.3.11. Be prepared by a competent person in accordance with relevant Group accounting policies and standards; and,

3.2.1.3.12. Include an appropriate contingency based on uncertainty.

3.2.2. The closure cost assumptions and unit rates shall be reviewed and endorsed by Group Finance prior to finalisation of the cost estimate (and be regarded as "Draft for Discussion" until endorsed).

3.2.3. A financial provision based on the closure cost estimate shall be established by Group Finance.

3.2.4. Where jurisdictions require securities (e.g. bonds, bank guarantees or annual fees) for closure, these sums are not to be set against the provisions for rehabilitation and decommissioning.

3.2.5. If the Closure Plan risk assessment identifies a significant risk of planned temporary closure, a standalone Care and Maintenance Plan shall also be developed. Otherwise the Closure Plan shall include a Care and Maintenance checklist that can be rapidly expanded into a Care and Maintenance Plan during a period of temporary closure.

3.2.5.1. The Care and Maintenance Plan shall include (but is not limited to) activities to ensure:

3.2.5.1.1. The site remains safe and stable for the period of temporary closure;

3.2.5.1.2. Compliance with relevant regulatory requirements and environmental permits is maintained;

3.2.5.1.3. Contractual obligations are considered;

3.2.5.1.4. Community agreements and obligations are met; and,

3.2.5.1.5. Potential environmental impacts are mitigated.

3.2.6. In the event of sudden or unplanned closure an accelerated closure process shall be implemented involving immediate preparation and implementation of a Decommissioning Plan based on the latest version of the Closure Plan. Otherwise, the Closure Plan shall be developed into a detailed Decommissioning Plan to be available at least two years prior to the projected closure of the operation (unless an earlier date is specified by regulators).

3.2.7. During decommissioning appropriate project management practices shall be applied.

3.2.8. The formal process for Acquisition and Divestments will be determined by the statutory regulations pertaining to the site and shall be documented in the Closure Plan.

3.2.8.1. During the acquisition of an asset due diligence assessments shall determine the adequacy of closure strategies and ensure that potential liabilities have been adequately identified and costed.

3.2.8.2. Following acquisition of a new asset the Closure Plan shall be updated within two years to ensure it addresses the requirements of the Newcrest standard.

3.2.8.3. In the event of divestment, copies of records relevant to closure shall be securely retained including legal agreements related to transfer of closure liabilities.

4. PERFORMANCE MEASURES

4.1. Monitor

4.1.1. In the Closure Plan the local statutory reporting requirements shall be identified and a regulatory reporting schedule shall be clearly defined. Closure Plans shall be submitted for regulatory review when required.

4.1.2. The Closure plan shall include activities related to post closure maintenance and monitoring for a minimum period of 10 years unless an alternative period is specified by the regulator or closure studies predict that relinquishment criteria can be met earlier.

4.1.3. Conformance with the Closure Standard shall be assessed through periodic corporate review of closure plans as they are updated/finalised.

4.1.4. Site General Managers shall annually assess whether any material changes have occurred that could impact financial provisions and notify Finance of the changes.

4.1.5. Any significant expansion or development of an operation shall trigger an update of the Closure Plan.

4.1.6. Closure Plans shall be updated and submitted for corporate review on the timeframes specified below (or in alignment with regulatory review timeframes if shorter):

4.1.6.1. For operations with a predicted operational life of greater than 10 years closure plans shall be formally updated and submitted for review every three years;

4.1.6.2. For operations with less than 10 years predicted operational life plans shall be updated and submitted for corporate review every two years; and

4.1.6.3. In the event of a material change to the operation (e.g. expansion approval or alternative treatment process), then the closure plan must be updated and reviewed within 12 months.

4.1.6.4. A detailed Decommissioning Plan shall be available at least 2 years prior to the projected closure of the operation, and must be reviewed annually.

4.1.7. Final approval for the Closure Plan or Decommissioning Plan will include sign-off by the site General Manager and Executive General Manager.

EN ST09 Non-Mineral Waste Management Standard

1. INTENT

1.1. This Standard details the requirements for management of Non-Mineral Waste generated at Newcrest operations.

2. APPLICATION

2.1. This standard shall apply to all managed Newcrest sites throughout the entire lifecycle, including exploration, construction, development and closure.

2.2. The standard shall apply to all Newcrest employees, contractors, sub-contractors and visitors.

2.3. No work shall be performed by any employee, contractor, sub-contractor or visitor unless they are trained, verified as competent and authorised to start that work by an authorised Newcrest person.

3. PERFORMANCE REQUIREMENTS

3.1. Planning

3.1.1. Non-mineral waste must be managed in compliance with relevant permits and regulatory requirements. Where risk assessment identifies significant sensitive environmental receptors that are not adequately protected by regulatory permit conditions, site based monitoring, environmental management systems and internationally accepted guidelines shall be referenced to complement regulatory requirements.

3.1.2. Prepare, document and maintain risk assessments relating to all non-mineral waste streams (hazardous and non-hazardous) which are generated; disposed on-site; transported and disposed off-site; or managed through a third party and apply controls to manage identified risks. Update risks assessments prior to significant operational or project changes relevant to non-mineral waste management.

3.1.3. Prepare and maintain a documented inventory of non-mineral wastes generated, received and disposed on or off-site.

3.1.4. Each operation shall develop and implement a Non-Mineral Waste Management Plan, approved by the site General Manager. The plan shall include (but is not limited to) the following:

3.1.4.1. Relevant legislation, policies and procedures;

3.1.4.2. Waste management objectives, including consideration of the waste management hierarchy (i.e. 1. Waste avoidance and reduction at source; 2) Reuse and recycling; and 3) Waste treatment and/or disposal);

3.1.4.3. Description of waste types and management methods of each waste stream including prioritised management of wastes identified as having significant risk; and

3.1.4.4. Responsibilities and accountabilities.

3.2. Implement and Operate

3.2.1. Ensure that non-mineral wastes are segregated at the source and that wastes awaiting treatment, transport or disposal are appropriately stored, contained and monitored.

3.2.2. Maintain operational procedures and effective controls for the safe handling, on-site and off-site transportation, storage and disposal of non-mineral wastes commensurate with their degree of risk and compatibility.

3.2.3. Maintain records of all waste streams sent off-site including identification of the receiver, and document the inventory and location (using geographical coordinates) of both active and inactive on-site waste landfills and disposal areas.

3.2.4. Disposal of non-mineral waste must only be carried out in approved and appropriately engineered facilities in compliance with relevant regulatory requirements and in accordance with operational procedures.

4. PERFORMANCE MEASURES

4.1. Monitor

4.1.1. Establish a program to inspect and monitor on site waste handling and storage facilities commensurate with the degree of risk of the waste. Corrective action must be taken where conditions that do not meet regulatory requirements, internal standards or industry good practice are identified.

4.1.2. Undertake annual assessments of facilities and contractors used for off-site disposal and/or treatment of non-mineral wastes to verify that the wastes have been dealt with responsibly and in accordance with regulatory requirements.

4.1.3. The Non-mineral Waste Management Plan must be reviewed at least every two years or more frequently when regulatory, operational or environmental conditions dictate.

EN ST10 Tailings Management Standard

1. INTENT

1.1. This Standard details the requirements for management of tailings at Newcrest operations. Note: requirements related to Deep Sea Tailing Placement (DSTP) are included in a separate standard specific to DSTP.

2. APPLICATION

2.1. This standard shall apply to all managed Newcrest sites throughout the entire lifecycle, including exploration, construction, development and closure.

2.2. The standard shall apply to all Newcrest employees, contractors, sub-contractors and visitors.

2.3. No work shall be performed by any employee, contractor, sub-contractor or visitor unless they are trained, verified as competent and authorised to start that work by an authorised Newcrest person.

3. PERFORMANCE REQUIREMENTS

3.1. Planning

3.1.1. Tailings and storage facilities shall be managed in accordance with regulatory permits and legal requirements. Where risk assessment identifies significant sensitive environmental receptors that are not adequately protected by regulatory permit conditions, site based monitoring and environmental management systems shall be applied to complement regulatory requirements.

3.1.2. The design and management of tailings handling and storage facilities shall align with industry body guidelines (e.g. ANCOLD Inc.)

3.1.3. Prepare and maintain risk assessments for tailings and update risk assessments prior to significant changes associated with tailings management and storage.

3.1.4. Document option assessments for tailings management to justify selected methodologies.

3.1.5. Tailings disposal options will be evaluated on a case by case basis considering the environmental settings and risks.

3.1.6. Undertake baseline geological, and hydrological surveys to a suitable depth below onland tailings storage facilities to quantify potential risks.

3.1.7. Each storage facility must be compatible with the geotechnical and geochemical characteristics of the tailings.

3.2. Design of each tailings storage facility must be prepared by certified engineers.

3.3. Implement and Operate

3.3.1. Develop and maintain a Tailings Management Plan which must include baseline information, operating requirements, significant risks and mitigating controls. The Plan must specify dam safety measures, related emergency plans and contingency measures including operational triggers and tracking. Shall align with industry body guidelines (e.g. ANCOLD Inc.).

3.3.2. Maintain an inventory of tailings generated, handled and stored.

3.3.3. Develop, implement and maintain operational procedures to manage risks related to tailings management, ensuring deposition planning is consistent with facility designs and production schedules.

3.3.4. Terrestrial tailings storage facilities shall be closed in accordance with the Mine Closure Plan aiming to achieve geotechnical and geochemical stability and to eliminate where possible the need for ongoing treatment and management.

4. PERFORMANCE MEASURES

4.1. Monitor

4.1.1. Monitoring program shall align with industry body guidelines (e.g. ANCOLD Inc.).

4.1.2. Establish and implement operating procedures to manage supernatant water volumes, monitor groundwater conditions and maintain seepage and recovery systems.

4.1.3. Undertake an annual inspection of each tailings storage facility by a qualified engineer.

4.1.4. Conduct inspections of tailings storage facilities and stormwater diversion structures and overflow controls following heavy rainfall episodes.

4.1.5. Conduct regular monitoring of surface and ground water around tailings storage facilities to monitor for potential impacts.

4.1.6. Any findings generate as a result of audits and 3rd party inspections, are managed and ta\racked accordingly.

EN ST 11 Waste Rock Management Standard

1. INTENT

1.1. This Standard details the requirements for management of waste rock at Newcrest operations.

2. APPLICATION

2.1. This standard shall apply to all managed Newcrest sites throughout the entire lifecycle, including exploration, construction, development and closure.

2.2. The standard shall apply to all Newcrest employees, contractors, sub-contractors and visitors.

2.3. No work shall be performed by any employee, contractor, sub-contractor or visitor unless they are trained, verified as competent and authorised to start that work by an authorised Newcrest person.

3. PERFORMANCE REQUIREMENTS

3.1. Planning

3.1.1. Waste rock shall be managed in accordance with relevant regulatory permits and approvals. Where risk assessment identifies significant sensitive environmental receptors that are not adequately protected by regulatory permit conditions, site based monitoring and environmental management systems shall be applied to complement regulatory requirements.

3.1.2. Waste rock shall be physically and geochemically characterised (including Acid and Metalliferous Drainage potential) to inform storage facility design and manage potential impacts during all phase of the project lifecycle.

3.1.3. Prepare and maintain documented risk assessments relating to waste rock including potential waste rock dump impact scenarios and management measures. Risk assessments shall be undertaken as part of change management prior to significant modification of waste rock storage facilities.

3.1.4. Maintain an inventory of waste rock generated and stored.

3.1.5. Waste rock storage facilities are to be engineered, designed, constructed and operated to:

3.1.5.1. Be geotechnically stable and compatible with the physical and geochemical characteristics of the waste rock;

3.1.5.2. Minimise the generation, runoff and infiltration of acid and metalliferous drainage;

3.1.5.3. Ensure sufficient quantities of inert/neutralising materials are

available for treatment of waste rock dumps at closure;

3.1.5.4. Manage runoff and storm water to control erosion and potential impacts to environmental receptors; and,

3.1.5.5. Be compatible with closure objectives and final landform designs.

3.2. Implement and Operate

3.2.1. Develop and maintain a Waste Rock Management Plan which defines how waste rock is managed including as a minimum:

3.2.1.1. A summary of the baseline characterisation of the waste rock and significant risks and controls;

3.2.1.2. Engineering design criteria; and,

3.2.1.3. An overview of the operating procedures relating to waste rock management.

3.2.2. The Plan must be integrated with the mine plan, rehabilitation objectives and closure planning.

3.2.3. Develop and implement operational procedures to manage significant risks related to waste rock management.

3.2.4. Investigate rehabilitation methodologies during the life of the operation to inform closure planning.

3.2.5. Undertake progressive rehabilitation aligned with the mine plan and closure plan and update rehabilitation targets annually.

4. PERFORMANCE MEASURES

4.1. Monitor

4.1.1. Develop an inspection and monitoring program appropriate to the nature and chemical reactivity of the waste rock.

EN ST12 Water Management Standard

1. INTENT

1.1. This Standard details the requirements for management of water resources at Newcrest operations.

2. APPLICATION

2.1. This standard shall apply to all managed Newcrest sites throughout the entire lifecycle, including exploration, construction, development and closure.

2.2. The standard shall apply to all Newcrest employees, contractors, sub-contractors and visitors.

2.3. No work shall be performed by any employee, contractor, sub-contractor or visitor unless they are trained, verified as competent and authorised to start that work by an authorised Newcrest person.

3. PERFORMANCE REQUIREMENTS

3.1. Planning

3.1.1. Ensure water management activities including abstraction, dewatering and discharge meets relevant regulatory requirements and permit conditions. Where risk assessment identifies significant sensitive environmental receptors that are not adequately protected by regulatory permit conditions, site based monitoring and environmental management systems shall be applied to complement regulatory requirements.

3.1.2. Prepare and maintain documented risk assessments and control measures for the management of water resources.

3.1.3. Develop and maintain a probabilistic site water balance, commensurate to the water risks. The water balance must identify both threats and opportunities to the sites water supply

3.1.4. Develop and maintain a Water Management Plan that includes as a minimum:

3.1.4.1. Baseline surface and groundwater hydrology and geochemical characteristics;

3.1.4.2. Significant risks and controls;

3.1.4.3. A summary of the water balance;

3.1.4.4. A summary of regional stakeholders who could be impacted by Newcrest's use of water resources if not managed appropriately; and

3.1.4.5. Improvement objectives and targets.

3.1.5. Design of water infrastructure must account for expected flows including significant storm events relevant to site location.

3.1.6. Prepare emergency response procedures for events such as drought, flood, failure of water infrastructure and unplanned discharges.

3.2. Implement and Operate

3.2.1. Prior to the commencement of construction works sites shall assess the need for a 'Stormwater Management, Sediment and Erosion Control Plan' and implement if required.

3.2.2. Develop and implement procedures for the operation and maintenance of water facilities and provide adequate training for staff responsible for the operation of the facilities.

3.2.3. A maintenance plan must be developed and implemented for all water infrastructure.

3.2.4. Risk assessments shall be undertaken as part of change management prior to significant infrastructure or process modification, considering the impact to water management.

4. PERFORMANCE MEASURES

4.1. Monitor

4.1.1. Implement water management-related inspection and monitoring programs that include measurement, checking, review and corrective action components.

4.1.2. Monitor water supply, storage, usage and discharge and seek opportunities to improve water efficiency, minimising impacts to and improve quality of water resources on an annual basis. The Water Management Plan and Water balance shall be updated following this review.

APPENDIX G: ICMM PRINCIPLES

APPENDIX C – THE TEN OPERATING PRINCIPLES OF THE INTERNATIONAL COUNCIL OF MINING AND METALS.

ICMM	In 2018, Newcrest was accepted into the International Council of Mining and Metals. Membership requires the commitment to 10 operating principles as summarized below: **Principle 1** **Apply ethical business practices and sound systems of corporate governance and transparency to support sustainable development** • Establish systems to maintain compliance with applicable law.1 **Principle 2** **Integrate sustainable development in corporate strategy and decision-making processes** • Support the adoption of responsible health and safety, environmental, human rights and labour policies and practices by joint venture partners, suppliers and contractors, based on risk. **Principle 3** **Respect human rights and the interests, cultures, customs and values of employees and communities affected by our activities** • Respect the rights, interests, aspirations, culture and natural resource-based livelihoods of Indigenous Peoples in project design, development and operation, apply the mitigation hierarchy to address adverse impacts, and deliver sustainable benefits for Indigenous Peoples. • Work to obtain the free, prior and informed consent of Indigenous Peoples where significant adverse impacts are likely to occur – as a result of relocation, disturbance of lands and territories or of critical cultural heritage – and capture the outcomes of engagement and consent processes in agreements. **Principle 4** **Implement effective risk-management strategies and systems based on sound science and which account for stakeholder perceptions of risks** • Assess environmental and social risks and opportunities of new projects and of significant changes to existing operations in consultation with interested and affected stakeholders, and publicly disclose assessment results. • Implement risk-based controls to avoid/prevent, minimise, mitigate and/or remedy health, safety and environmental impacts to workers, local communities, cultural heritage and the natural environment, based upon a recognised international standard or management system. **Principle 5** **Pursue continual improvement in health and safety performance with the ultimate goal of zero harm** **Principle 6** **Pursue continual improvement in environmental performance issues, such as water stewardship, energy use and climate change** • Plan and design for closure in consultation with relevant authorities and stakeholders, implement measures to address closure-related environmental and social aspects, and make financial provision to enable agreed closure and post-closure

	commitments to be realised. • Implement water stewardship practices that provide for strong and transparent water governance, effective and efficient management of water at operations, and collaboration with stakeholders at a catchment level to achieve responsible and sustainable water use. • Design, construct, operate, monitor and decommission tailings disposal/storage facilities using comprehensive, risk-based management and governance practices in line with internationally recognised good practice, to minimise the risk of catastrophic failure.3 • Apply the mitigation hierarchy to prevent pollution, manage releases and waste, and address potential impacts on human health and the environment. • Implement measures to improve energy efficiency and contribute to a low-carbon future, and report the outcomes based on internationally recognised protocols for measuring CO2 equivalent (GHG) emissions. **Principle 7** **Contribute to the conservation of biodiversity and integrated approaches to land-use planning** • Neither explore nor develop new mines in World Heritage sites, respect legally designated protected areas, and design and operate any new operations or changes to existing operations to be compatible with the value for which such areas were designated. • Assess and address risks and impacts to biodiversity and ecosystem services by implementing the mitigation hierarchy, with the ambition of achieving no net loss of biodiversity. **Principle 8** **Facilitate and support the knowledge-base and systems for responsible design, use, re-use, recycling and disposal of products containing metals and minerals** • In project design, operation and de-commissioning, implement cost-effective measures for the reCVOery, re-use or recycling of energy, natural resources and materials. • Assess the hazards of the products of mining according to UN Globally Harmonised System of Hazard Classification and Labelling or equivalent relevant regulatory systems and communicate through safety data sheets and labelling as appropriate. **Principle 9** **Pursue continual improvement in social performance and contribute to the social, economic and institutional development of host countries and communities** • Implement inclusive approaches with local communities to identify their development priorities and support activities that contribute to their lasting social and economic wellbeing, in partnership with government, civil society and development agencies, as appropriate. • Enable access by local enterprises to procurement and contracting opportunities across the project life-cycle, both directly and by encouraging larger contractors and suppliers, and also by supporting initiatives to enhance economic

	opportunities for local communities. • Conduct stakeholder engagement based upon an analysis of the local context and provide local stakeholders with access to effective mechanisms for seeking resolution of grievances related to the company and its activities. **Principle 10** **Proactively engage key stakeholders on sustainable development challenges and opportunities in an open and transparent manner. Effectively report and independently verify progress and performance**

APPENDIX H: MONITORING PROGRAM SUMMARY

Aspect	Management / monitoring plan / programme	Monitoring Type/ Parameters	Frequency of Sampling or Monitoring	Monitoring Locations
Vibration and Overpressure	Cadia Vibration (Blast) Monitoring Programme	Blast monitoring units (measure ground vibration (mm/sec) & air overpressure dB(Lin Peak))	24 hours continual (12:00 – 12:00)	Coorabin Meribah; Chimney; Chesterfield; Rosebank; Mayburies; Warrengong
Air Quality	Cadia Air Quality Monitoring programme	Dust Deposition (g/m2/month)	Monthly	DG5A: Bundella; DG15A: Bundarra; DG17: Ashleigh Park; DG18: Wire Gully; DG19: Oakey Creek; DG29A: Meribah; DG12A: Flyers Creek Weir; DG9A: Exploration; GL6: Somervaille; DGL8: CDWF; DGL9 – Hollwood
		TEOM (PM10)	24 hours continual (12:00 – 12:00)	TEOM 1: Bundarra; TEOM 2: Flyers Creek Weir; TEOM 3: Triangle Flat; TEOM 4: Meribah
Noise	Cadia Noise Monitoring Programme	Directional Unattended (7-day period) dBA and Attended	Biannually on a rotation basis	Chesterfield; Warrengong; Willow Creek; South Log; Bonnie Glen; Rosebank; Northwest; Somervaille; Hollwood; 247 Newbridge Road; Athol

Aspect	Management / monitoring plan / programme	Monitoring Type/ Parameters	Frequency of Sampling or Monitoring	Monitoring Locations
		Traffic (Directional Unattended)	Biannually on a progressive basis	Cadia Road; Woodville Road; Orchard Road
Pests and weeds	Land and Biodiversity (landscape) Management Plan	Vertebrate Pests, Noxious Weeds, Environmental Weeds	Continuous	Site wide CDF's and neighbouring farms
Meteorology	N/A	Temperature; Barometric pressure; Wind direction; Wind Speed; Sigma-theta; Relative humidity; Solar radiation; Evaporation; Rainfall	Continuous	Weather Stations Ridgeway; Southern Lease Boundary Pluviometers (Rainfall only) PVDC; PVLO; 412147; USFC; SPR03; PV3; PV6; MB74; CWRR; 412167; 412702

Aspect	Management / monitoring plan / programme	Monitoring Type/ Parameters	Frequency of Sampling or Monitoring	Monitoring Locations
Rehabilitation	Land and Biodiversity (landscape) Management Plan	Ecology monitoring	Annually* **Pending climatic conditions, reference site monitoring may be extended to biannual*	<u>Woodland Reference Sites*</u> RfWood01: Bundarra; RfWood02: Ashleigh Park; RfWood04: CVO Access Rd; RWood05 (RfBush01); RfPast01; RfPast03; RrRip02 (Bakers Shaft); RrRip03 (CVO Cadiang Ck) <u>Monitoring Sites</u> Ashleigh Park; South Dump 01; South Dump 02; South Dump 03; South Dump 04; South Dump 05; South Dump 06; South Dump 07; South Dump 08; South Dump 09; South Dump 10; North Dump 01; North Dump 02; North Dump 03; Willunga DS01; Willunga DS02; Cadiangullong Creek; Creek Diversion

Aspect	Management / monitoring plan / programme	Monitoring Type/ Parameters	Frequency of Sampling or Monitoring	Monitoring Locations
Cover System Performance (inc Acid Rock Drainage)	Land and Biodiversity (landscape) Management Plan	Thermal Conductivity Water; Content Sensor Net; Radiometer Water Levels; Interflow Monitoring; Rain Gauge	Continuous	North Waste Rock Dump P1; P2; P3; P4; P5; P6; S1; S2 Natural Site South Waste Rock Dump P1; P2; P3, P4; P5; P6

Aspect	Management / monitoring plan / programme	Monitoring Type/ Parameters	Frequency of Sampling or Monitoring	Monitoring Locations
Aquatic Ecosystem Monitoring	Land and Biodiversity (landscape) Management Plan	Macroinvertebrate, fish populations and aquatic habitat condition	Biannually (Autumn and Spring)	Cadiangullong Creek CC1; CC2; CC3; CC4; CC5 Flyers Creek FC1; FC2 Swallow Creek SC1 Panuara Rivulet PR1; PR2 Rodd's Creek RC1 Diggers Creek DG1

Aspect	Management / monitoring plan / programme	Monitoring Type/ Parameters	Frequency of Sampling or Monitoring	Monitoring Locations
Historical Heritage	Historical Heritage Management Plan	Monitoring for structural damage of Cornish Engine House, Crusher and Chimney & historic surrounds in SHR779	Monthly (internal); Annual (external independent)	SHR 779
Sediment Dams	Water Management Plan	Water level and maintenance / pump out requirements	Following 10mm rainfall	<u>1:100 ARI Design Dams</u> SROP; Northern leachate (NLD); Southern leachate (SLD); ST14; R2, CDW06 (Cadia DWF) <u>1:20 ARI Design Dams</u> CS; AR1; AR4-5 combined; CD GL; CD HT; SB4A; SB10; SB12; SB14; SB15; CD15; CP1A*; CP2; CP3; CP4; CD11' CD13; CD14; H18-H19 combined; T6.

APPENDIX I: GROUND WATER MONITORING SCHEDULE

Groundwater monitoring locations

Groundwater Schedule		Quarterly	Monthly	Monthly	Annual	Monthly	Monthly	Quarterly	Monthly	Monthly	Quarterly	Monthly	Monthly
Bore	**Location**	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
Duplicate	QA/QC	GWQ	GWM	GWM	GWQ	GWM	GWM	GWQ	GWM	GWM	GWQ	GWM	GWM
Blank		GWQ	GWM	GWM	GWQ	GWM	GWM	GWQ	GWM	GWM	GWQ	GWM	GWM
MB43	Giblins Rd left off Woodville Rd	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB44A		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB44B		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB46	Woodville - off Woodville Rd	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB47A		Dip	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB47B		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB48	Pine Forest - Katsumata Rd	Dip	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB49	Cadia Rd, Last Bore	Dip	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB50	Cadia East Vent Rise	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB51		Dip	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB52		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB53	Lloyd Baker "Redmore"	Dip			Dip + FP + GWQ			Dip			Dip		
MB54		Dip			Dip + FP + GWQ			Dip			Dip		
MB55		Dip			Dip			Dip			Dip		
MB56		Dip			Dip + FP + GWQ			Dip			Dip		
MB62	Back Woodville	Dip	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip

Groundwater Schedule		Quarterly	Monthly	Monthly	Annual	Monthly	Monthly	Quarterly	Monthly	Monthly	Quarterly	Monthly	Monthly
Bore	Location	January	February	March	April	May	June	July	August	September	October	November	December
MB63	Graham Barnes "Park Haven"	Dip			Dip + FP + GWQ			Dip			Dip		
MB64		Dip			Dip + FP + GWQ			Dip			Dip		
MB65		Dip			Dip + FP + GWQ			Dip			Dip		
MB68	East of Tailings In paddocks next to Cadia Rd (on fenceline)	Dip			Dip + FP + GWQ			Dip			Dip		
MB69		Dip			Dip + FP + GWQ			Dip			Dip		
MB70		Dip			Dip + FP + GWQ			Dip			Dip		
MB71	North/Calvert Lane	Dip			Dip + FP + GWQ			Dip			Dip		
MB72	Waldegrave Rd	Dip			Dip + FP + GWQ			Dip			Dip		
MB73	Giblins Rd right off Woodville Rd	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB74	Rapleys Lane	Dip			Dip + FP + GWQ			Dip			Dip		
MB75	Bulls Lane	Dip			Dip + FP + GWQ			Dip			Dip		
MB76	Back Woodville (ERO)	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB80	East URCWHD	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip
MB81	Strattonvale Yards	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip
MB82	Sharpes Ridge	Dip	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB83 (EPL Point 30)	Below STSF - Meribah	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ

Groundwater Schedule		Quarterly	Monthly	Monthly	Annual	Monthly	Monthly	Quarterly	Monthly	Monthly	Quarterly	Monthly	Monthly
Bore	Location	January	February	March	April	May	June	July	August	September	October	November	December
TW05MB	Next to Dyke Pond, east of STSF	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip
MB84 (EPL Point 31)	Below STSF - Oakey Creek	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ
MB85	West STSF - Strattonvale	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip
MB86	West NTSF - Bookra	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip
MB87	West NTSF - TeAnau	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip
MB90	West of Containment Bund	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip
MB88	Pine Forest - Katsumata Ave	Dip	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB1A	Central Processing Area	Dip + FP + GWQ + HYD			Dip + FP + GWQ + HYD			Dip + FP + GWQ + HYD			Dip + FP + GWQ + HYD		
MB1B	Geotech Yard	Dip			Dip			Dip			Dip		
MB2A	Central Processing Area	Dip + FP + GWQ + HYD			Dip + FP + GWQ + HYD			Dip + FP + GWQ + HYD			Dip + FP + GWQ + HYD		
MB2B	Below Site Runoff Pond	Dip			Dip			Dip			Dip		
MB3A		Dip + FP + GWQ + HYD			Dip + FP + GWQ + HYD			Dip + FP + GWQ + HYD			Dip + FP + GWQ + HYD		
MB3B		Dip			Dip			Dip			Dip		
MB4A		Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB4B		Dip			Dip			Dip			Dip		
MB5C	Clark's Yard - On Tails Pipeline Rd	Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		

Groundwater Schedule		Quarterly	Monthly	Monthly	Annual	Monthly	Monthly	Quarterly	Monthly	Monthly	Quarterly	Monthly	Monthly
Bore	Location	January	February	March	April	May	June	July	August	September	October	November	December
MB6A	In CRAS Area	Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB6B		Dip			Dip			Dip			Dip		
MB7A	Paddock West of Tails Pipeline Rd Opposite Southern Leachate Dam	Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB7B		Dip			Dip			Dip			Dip		
MB8A		Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB8B		Dip			Dip			Dip			Dip		
MB9A		Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB9B		Dip			Dip			Dip			Dip		
MB10A		Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB10B		Dip			Dip			Dip			Dip		
MB11A		Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB11B		Dip			Dip			Dip			Dip		
MB18	Near Dyno's Yard and H19	Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB20	Wire Gully - top of topsoil stockpile	Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB21	Wire Gully - base of topsoil stockpile	Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB23	Along Tails Pipeline	Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB24	South of Tails Crib Room	Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB25	Near back gate, STSF	Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB26A	Below southern tails	Dip			Dip			Dip			Dip		

Groundwater Schedule		Quarterly	Monthly	Monthly	Annual	Monthly	Monthly	Quarterly	Monthly	Monthly	Quarterly	Monthly	Monthly
Bore	Location	January	February	March	April	May	June	July	August	September	October	November	December
MB26B		Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB27 (EPL Point 23)		Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ
MB28A		Dip			Dip			Dip			Dip		
MB28B		Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB29A		Dip			Dip			Dip			Dip		
MB29B		Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB77A		Dip			Dip			Dip			Dip		
MB77B		Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ			Dip + FP + GWQ		
MB78 (EPL Point 28)		Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ
MB79 (EPL Point 29)		Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ
MB30	Cadia Hill Pit TSF	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip
MB91		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB92		Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip
MB93		Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip
MB94		Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ
MB96		Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ
PZ4		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
PZ5		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
PZ10		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip

Groundwater Schedule		Quarterly	Monthly	Monthly	Annual	Monthly	Monthly	Quarterly	Monthly	Monthly	Quarterly	Monthly	Monthly
Bore	Location	January	February	March	April	May	June	July	August	September	October	November	December
PZ10A		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
PZ89		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
PZ89A		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
PZ90		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
MB99A(1)		Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ
MB99B(1)		Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ
MB100(1)		Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ
MB101(1)		Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ
MB97A(1)		Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ
MB97B (1)		Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ
MB97C (1)		Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ
CX1(2)	Cadia Extended Pit	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ	Dip + FP + GWQ
CQ098		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
CB8A		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
CB8B		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
CB6A	Near CB6 Production Bore	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip	Dip + FP + GWQ	Dip	Dip
CB14A		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
CB14B		Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip	Dip
RB1	Coorabin - Ridgeway Access Rd	Dip			Dip			Dip			Dip		
RB2	Exploration	Dip			Dip			Dip			Dip		

Groundwater Schedule		Quarterly	Monthly	Monthly	Annual	Monthly	Monthly	Quarterly	Monthly	Monthly	Quarterly	Monthly	Monthly
Bore	Location	January	February	March	April	May	June	July	August	September	October	November	December
RB3	Enter through Bundarra - SLB/Caringle	Dip			Dip			Dip			Dip		
RB4	Regional Bores	Dip			Dip			Dip			Dip		
RB5		Dip			Dip			Dip			Dip		
RB7	Willunga	Dip			Dip			Dip			Dip		
RO6A		Dip			Dip			Dip			Dip		
RO6B		Dip			Dip			Dip			Dip		
RO7		Dip			Dip			Dip			Dip		
RO8		Dip			Dip			Dip			Dip		
RO10A	Ridgeway Bores	Dip			Dip			Dip			Dip		
RO10B	Tunbridge Wells	Dip			Dip			Dip			Dip		
RO11		Dip			Dip			Dip			Dip		
RO12		Dip			Dip			Dip			Dip		
RS3		Dip			Dip			Dip			Dip		
RS7	Other side of 4 Mile Ck Rd	Dip			Dip			Dip			Dip		
RS8		Dip			Dip			Dip			Dip		
RS9	Ridgeway Bores	Dip			Dip			Dip			Dip		
RS10A	Tunbridge Wells	Dip			Dip			Dip			Dip		
RS10B		Dip			Dip			Dip			Dip		
RS11		Dip			Dip			Dip			Dip		
RS12		Dip			Dip			Dip			Dip		

Notes: 1. Sampling will be conducted on a monthly basis for the first 24 months to establish baseline chemistry data, after which time sampling frequency will be reviewed and adjusted if needed.

2. CX1 bore can only be sampled when the pump is operating.

Groundwater water analytical suites

Suite name	Suite Code	Parameters
Physical Parameters (field measurement)	FP	- pH, EC, Temperature, ORP
Groundwater Quality	GWQ	- EC, TSS, TDS - Alkalinity; - Major ions: Ca, Mg, Na, K, Cl, SO4, hardness; - Nutrients Nitrite, Nitrate, Total N, Total P; - Dissolved metals (Ag, Al, As, Cd, Cu, Co, Cr, Fe, Hg, Mn, Mo, Ni, Pb, Sb, Zn)
Oil and Grease	HYD	TRH/BTEXN Reporting of TRH

Notes: FP = field parameters

APPENDIX J: SURFACE WATER MONITORING SCHEDULE

Site ID	Description	January	February	March	April	May	June	July	August	Sept	October	Nov	December
412144	Downstream Dam Gauging Station	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ
412161	Southern Lease Boundary	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ
412166	Diggers Creek		Level + FP + SWQ			Level + FP + SWQ			Level + FP + SWQ			Level + FP + SWQ	
412167	Swallow Creek		Level + FP + SWQ			Level + FP + SWQ			Level + FP + SWQ			Level + FP + SWQ	
412168	Forestry Gauging Station		Level + FP + SWQ			Level + FP + SWQ			Level + FP + SWQ			Level + FP + SWQ	
412702	Oaky Creek Gauging Station	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ
CAWS0	Cadiangullong Dam	Algae	Algae	Algae	Algae						Algae	Algae	Algae
			FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS10	Lower Flyers Creek		FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS13	Cadia Creek Weir (background)	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS2	DS-Ridgeway culvert	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS28 (EPL Point 33)	Rodds Creek Tributary second Crossing, below CAWS54	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS3	Adit south of Ridgeway north portal	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS30 (EPL Point 34)	Rodds Creek first rd crossing below Panuara rd	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS31	STSF seepage pond (below wall)	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ

Site ID	Description	January	February	March	April	May	June	July	August	Sept	October	Nov	December
CAWS34	Northern Leachate weir		Level + FP + SWQ			Level + FP + SWQ			Level + FP + SWQ			Level + FP + SWQ	
CAWS35	Southern Leachate weir		Level + FP + SWQ			Level + FP + SWQ			Level + FP + SWQ			Level + FP + SWQ	
CAWS37	H19 Sediment dam		FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS41	STSF seepage weir (eastern wall)	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS42	NTSF		FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS43	STSF		FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS44	Upper Flyers Creek		FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS46	Hoares Creek		FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS52	Upper Rodds Creek Dam	Algae	Algae	Algae	Algae						Algae	Algae	Algae
			FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS54	Rodds Creek Tributary up stream CAWS28	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS55 (EPL Point 37)	Rodds Creek Tributary D/S Panuara Rd	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS56	Knox 1, right arm below willow tree, off Panuara Rd	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS57	Knox 2, left arm, off Panuara Rd	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS59	Rodds Ck between CAWS 30 and Oakey Ck GS	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS60	Dyke Pond	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS61	Cadiangullong Ck @ Panuara Rd Crossing	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ

Site ID	Description	January	February	March	April	May	June	July	August	Sept	October	Nov	December
CAWS62	Cadiangullong Creek, u/s Rodds Creek confluence	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS63 (EPL Point 19)	Downstream TSF seepage pond Weir POINT19 Discharge point	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ	Level + FP + SWQ
CAWS64	TSF Seepage SW STSF Embankment		FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS65	Cadia Hill Pit Decant	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS67	H19 seepage inflow (at road culvert)		FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS68	T6 Sediment Dam		FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS69	T6 Seepage inflows (in road drain eastern side of road next to MB24)		FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS72	T7 Sediment Dam (inside containment bund)		FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS73	Site Runoff Pond		FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS75	Farm dam receiving seepage CAWS64, next to MB84		FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS76	Farm dam on Strattonvale property near MB25		FP + SWQ			FP + SWQ			FP + SWQ			FP + SWQ	
CAWS78	Cadiangullong Creek d/s from Ore Processing Plant (u/s from NLEACH)	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CAWS79	Cadiangullong Creek u/s from Ore Processing Plant (CVOCC2 location)	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ

Site ID	Description	January	February	March	April	May	June	July	August	Sept	October	Nov	December
CDW03	Upstream of New Blayney Dewatering Facility - Belubula Rv, sports field	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CDW04	Downstream of New Blayney Dewatering Facility - Belubula River, 50m below bridge	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CDW05	Downstream Blayney Filter Plant - Western Boundary	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
CEP02	Cadia East Portal Dewatering (Underground GEHO pump)	FP + SWQ + OG	FP + SWQ + OG	FP + SWQ + OG	FP + SWQ + OG	FP + SWQ + OG	FP + SWQ + OG	FP + SWQ + OG	FP + SWQ + OG	FP + SWQ + OG	FP + SWQ + OG	FP + SWQ + OG	FP + SWQ + OG
NEC061	Upstream of Blayney Dewatering Facility	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
NEC062	Downstream of Blayney Dewatering Facility	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ	FP + SWQ
SPR03	Redmore Spring		Level + FP + SWQ			Level + FP + SWQ			Level + FP + SWQ			Level + FP + SWQ	

Surface water analytical suites

Suite name	Suite Code	Parameters
Physical Parameters (field measurement)	FP	- pH, EC, Temperature, ORP
Surface Water Quality	SWQ	- EC, TSS, TDS - Alkalinity; - Major ions: Ca, Mg, Na, K, Cl, SO4, hardness; - Nutrients Nitrite, Nitrate, Total N, Total P; - Dissolved metals (Ag, Al, As, Cd, Cu, Co, Cr, Fe, Hg, Mn, Mo, Ni, Pb, Sb, Zn)
Oil and Grease	O&G	- Oil and Grease
Dam	ALG	Blue Green Algae (counts).

APPENDIX K: ENVIRONMENTAL INSPECTION TEMPLATE

Workplace Inspection Checklist					
Aspect	**Compliance requirement**	**Compliant (Y/N)**	**Corrective action required**	**Hazard No.**	**CHESS Action Number**
Chemicals / hydrocarbons	Are chemicals/hydrocarbons approved for use on site and labelled correctly (ie in the manufacturers container with corresponding label)?				
	Are chemicals / hydrocarbons stored in a bunded area?				
	Will spurting be captured?				
	Is the bund a suitable size (see guideline at end of sheet)?				
	Is the bund sound - free from cracks?				
	Are bunds covered (to prevent rainwater filling the bund)?				
	Are bunds being maintained (removal of spilt product / rain water / silt / sediment)?				
	Are fill/decant areas contained within the / a bund?				
	Is there any staining indicating leaks or spills?				
	Are SDS's located near the storage area?				
	Is the SDS storage area easily identifiable?				
	Do SDS's match the chemicals being stored?				
	Are SDS's less than 5 years old?				
Spill Kits/Response	Are spill kits available and readily accessible?				
	Do spill kits contain correct materials as per spill kit list?				
	Does the spill kit need restocking?				
	Is there rubbish in the spill kit bin?				
Waste Management	Are there any recyclable materials in the general waste bin (eg. Steel, copper, timber, paper, cardboard, 'So fresh' water bottles)?				
	Are the right bins in the right location. (Suitable to the types of waste being generated, easily assessable by personnel)?				
	Do the bins require emptying?				
	Is signage (including education posters/materials, bin labelling and signage, contact details) adequate, up to date and in good condition and clearly visible?				
Dust	Is dust suppression equipment operational?				
	Is dust suppression equipment effective?				
Lighting	Do any lights face out towards the community to the south, south east or south west?				

Workplace Inspection Checklist

Aspect	Compliance requirement	Compliant (Y/N)	Corrective action required	Hazard No.	CHESS Action Number
Stored materials	Are items required for future use?				
	Are they stored correctly to avoid degradation? (eg, out of the weather, away from ultraviolet light etc)				
	Is the item catalogued ? Do the right people know what it is, where it is?				
	Does the item contain a liquid (oil or chemical) - is there a risk of a leak?				
	Is there area neat, tidy and well set out?				
	Is there rubbish, un-needed items, degrading items that should be disposed of.				
	Is a formalised inspection regime (PM in SAP) in place to ensure the area / equipment is maintained.				
Drainage	Is water draining in a clear direction to a containment pond?				
	Are drains blocked and require cleaning out.				
	Does water pool in the area ?				
Noise	Does noise in the area seem to be excessive / indicate a fault such as a worn bearing, damaged exhaust etc ?				
Vegetation	Are weeds / unwanted vegetation growing in the area and causing a visibility, access or ignition hazard ?				
Other					

Inspection Conducted by .....

Area Inspected .....

Date of Inspection .....

Instructions

All Hazards / corrective actions must be entered into CHESS

Provide a copy of the completed inspection sheet to your Manager.

All areas should be inspected on a quarterly basis.

Site bunding requirements	**Bulk Storage (large tanks / permanent facilities)**	The bund must be capable of holding 120% of the total storage volume
	Packaged Storage (small portable tanks / drums, temporary storage)	The bund must be capable of holding: 25% of the total volume being stored or 120% of the largest container (whichever is the greatest) Packages must be placed so that the bund can capture spurting etc